DIVISION 1 – GENERAL POLICIES, PROCEDURES, AND REQUIREMENTS

DIVISION 1

GENERAL POLICIES, PROCEDURES, AND REQUIREMENTS

101 GENERAL

101.01 AUTHORITY AND PURPOSE

101.01.A These Design Standards shall apply to all improvements within existing and proposed public right-of-way and public easements, to all improvements to be maintained by the City, and to all improvements for which the City Code requires approval by the City. Most of the elements contained in these Design Standards are public works oriented and it is intended that they apply to both publicly financed public improvements under City contract and privately financed public improvements.

101.01.B Private construction firms, Developers, consulting engineers, or any other individuals or business entities engaged in the design and construction of improvement projects that ultimately will be owned, operated, or maintained by the City shall comply in every respect with these standards. Where minimum values are stated, greater values should be used whenever practical; where maximum values are stated, lesser values should be used whenever practical.

101.01.C The purpose of these Design Standards is to provide a consistent policy under which certain physical aspects of public improvements shall be implemented. All public system improvements and public works facilities shall be designed and constructed in accordance with all applicable rules and regulations of the City and any City interpretations of those rules and regulations, including applicable technical guidance manuals, and in accordance with all applicable federal, state, and local statutes and rules. Approval of public improvements must be made by the City Engineer or the Public Works Director before construction is permitted. An authorized representative of the City will be available for construction observation during construction of the project.

101.01.D It is important to emphasize that these Design Standards are not intended to inappropriately restrict or constrain the originality or innovativeness of the Design Engineer and his or her ability to exercise and apply professional judgment to each situation and project. The City recognizes that every public improvement project has unique characteristics and situations. These Design Standards cannot provide for all situations and are intended to assist, but not to serve as a substitute for competent work by design professionals. It is expected that the Design Engineer will bring to each project the best of skills from the Design Engineer's respective discipline.

101.01.E If the Design Engineer anticipates challenges in meeting these Design Standards, they should contact the City Engineer prior to extensive design efforts. The City Engineer will seek to work with each designer to achieve a satisfactory design and construction project that is in the best long-term interests of the City of Stayton and one that complies with all applicable rules and regulations.

101.01.F These Design Standards are not intended to limit any innovative or creative effort which could result in better quality, better cost savings, or both. Any proposed departure from the Design Standards will be judged; however, on the likelihood that such variance will produce a comparable result, or long-term benefit to the City, in every way adequate for the intended purpose.

101.01.G Requests for alternatives to these Design Standards will be considered for approval by the City Engineer as the need arises and conditions warrant modification. Request must show that the variance meets the intent of the Design Standards and will not compromise safety, impact other properties or cause an increase in maintenance. This consideration will be on a case-by-case basis and require sufficient justification prior to approval.

101.01.H All franchise utility improvements, including telephone, electrical power, gas and cable TV shall meet the current standards of the appropriate agency as well as City Standards.

101.01.I In the case of conflicts between the text of these Design Standards and the Standard Drawings, or between the provisions of these Design Standards and the Standard Construction Specifications, the more stringent as determined by the City Engineer shall apply.

101.01.J All surveys for public works facilities shall be performed under the direction of a Professional Land Surveyor registered in the State of Oregon. All elevations shall be referenced to NGVD 29 vertical datum. Vertical benchmark locations shall be coordinated with the City.

101.01.K On completion of projects to become public works, the Design Engineer shall submit one complete set of reproducible "Record Drawings" (As-Builts), a compact disc (CD) containing electronic PDFs and cad files (AutoCAD version within 5 years of submittal, or others as approved) to the City Engineer. The drawings shall show any deviations from the original construction drawings and shall include sufficient information to accurately locate public works facilities. No bond will be released until the City Engineer receives an acceptable set of reproducible Record Drawings from the Design Engineer, with his/her stamp of certification.

101.01.L For privately financed public improvements, the Design Engineer, at the completion of construction, shall submit a completion certificate to the City stating that all work has been completed in accordance with the approved project plans and specifications.

101.01.M Before the City accepts a public works project for operation and maintenance, a one (1) year Warranty Bond on all materials and workmanship incorporated in the project shall be provided to the City.

101.02 APPLICABILITY

101.02.A These Design Standards will govern the design of public improvements and applicable work within the City and its service areas. This document will be routinely referred to as the Design Standards.

101.03 REFERENCES

101.03.A These Design Standards are intended to be consistent with the most current provisions of the documents and requirements listed below

- Stayton Municipal Code (SMC)
- Stayton Comprehensive Plan
- Oregon Statewide Planning Goals and Guidelines
- Stayton Transportation System Plan (TSP)
- Stayton Master and/or Facility Plans
- Oregon Administrative Rules Chapter 333, 340(Division 52)
- State of Oregon Specialty Codes (Building and Fire Codes)
- State statutes and regulations
- Federal statutes and regulations

101.04 SPECIAL DESIGN APPLICATIONS

101.04.A Special design applications not covered in these Design Standards require review and approval by the City. Submittal of full design calculations, supplemental drawings, and information will be required prior to any approval. Such design applications requiring special review and approval include, but are not limited to, the following:

1. STREETS AND ALLEYS:

- ❖ Bridges
- ❖ Roundabouts/Traffic Calming
- ❖ Traffic Signals
- ❖ Electrical/Control/Telemetry Devices

2. WATER SYSTEM:

- ❖ Treatment Plants
- ❖ Reservoirs
- ❖ Pump Stations
- ❖ Pressure Regulating Devices
- ❖ Flow Measurement/Monitoring
- ❖ Electrical/Control/Telemetry Devices

3. SANITARY SEWER SYSTEM:

- ❖ Treatment Plants
- ❖ Sewer Facilities
- ❖ Sewer Outfalls
- ❖ Pump Stations and Force Mains
- ❖ Electrical/Monitoring/Telemetry Devices
- ❖ Siphons
- ❖ Internal Sealing of Existing Sewers
- ❖ Relining of Existing Mains
- ❖ Energy Dissipaters
- ❖ Flow Measurement/Monitoring
- ❖ Hydrogen Sulfide and/or Hazardous Gases

4. STORM DRAIN SYSTEM:

- ❖ Internal Sealing of Existing Storm Drains
- ❖ Relining of Existing Storm Drains
- ❖ Energy Dissipaters
- ❖ Bank protection
- ❖ Flow Measurement/Monitoring

101.05 STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS

101.05.A Except as otherwise provided by these Design Standards, all construction design detail, workmanship, and materials shall be in accordance with the current edition of the City of Stayton Public Works Standard Construction Specifications and Standard Drawings.

101.06 CITY POLICY REGARDING ENGINEERING

101.06.A It will be the policy of the City to require compliance with Oregon Revised Statute 672 for Professional Engineers.

101.06.B Engineering plans, reports, or documents shall be prepared by a registered Professional Engineer or by a subordinate employee under the Design Engineer's direction, and shall be signed by the Design Engineer and stamped with the Design Engineer's seal to indicate responsibility for them. The Design Engineer shall review any proposed public facility extension, modification, or other change with the City prior to engineering or other proposed design work to determine if there are any special requirements or whether the proposal is permissible.

101.06.C City approval of plans or any other engineering document produced by the Design Engineer does not in any way relieve the Design Engineer of responsibility to meet all applicable City, County, State, and Federal requirements, and the obligation to protect life, health, and property of the public. The plan for any project shall be revised or supplemented at any time it is determined that the project requirements have not been met.

101.07 CONVENTIONS USED THROUGHOUT THE DESIGN STANDARDS

101.07.A GENERAL

1. The provisions of Oregon Revised Statutes Chapter 279A and 279C and Oregon Administrative Rules Chapter 137, Divisions 46 and 49, apply to all publicly financed public improvement projects that incorporate the Public Works Standards of the City of Stayton into the Contract. The ORS and OAR provisions control over any conflicting language in the Public Works Standards.

2. In interpreting these Design Standards, it is understood that if the context so requires:
   - ❖ The singular pronoun shall be taken to mean and include the plural pronoun.
   - ❖ The masculine pronoun shall be taken to mean the feminine and the neuter pronoun.
   - ❖ All captions used therein are intended solely for the convenience of reference and shall in no way limit any of the provisions of these Design Standards.

3. The words “directed”, “required”, “permitted”, “ordered”, “requested”, “instructed”, “designated”, “considered necessary”, “prescribed”, “approved”, “acceptable”, “satisfactory”, or words of like import, refer to actions, expressions, and prerogatives of the City.

4. Command type sentences are used, but are not exclusive of other directives throughout these Design Standards. In all cases the command expressed or implied is directed to the Design Engineer and/or Developer.

5. The words, “as shown”, “shown”, “as indicated”, or “indicated” or words of like import, refer to as indicated on the Plans or Standard Drawings.

101.07.B REFERENCES TO LAWS, ACTS, REGULATIONS, RULES, ORDINANCES, STATUTES, ORDERS, AND PERMITS

1. References are made in the text of the Standards to "laws", "acts", "rules", "statutes", "regulations", "ordinances", etc. (collectively referred to for purposes of this Subsection as "Law"), and to "orders" and "permits" (issued by a governmental authority, whether local, State, or federal, and collectively referred to for purposes of this Subsection as "Permits"). Reference is also made to "applicable laws and regulations". The following conventions apply in interpreting these terms, as used in the Standards.

   - **Law** - In each case, unless otherwise expressly stated therein, the Law is to be understood to be the current version in effect. This also applies where a specific Law is referenced or cited, regardless of whether the text of the Law has been included in the Standards or not, and regardless of whether the text of the Law has been summarized or paraphrased. In each case, the current version of the Law is applicable under any Contract. The reader is therefore cautioned to check the actual text of the Law to confirm that the text included in the Standards has not been modified or superseded.
   - **Permits** - Orders and permits issued by a government agency may be modified during the course of performing the Work under a Contract. Therefore, wherever the term "order" or "permit" is used in the Standards, it is intended to refer to the then-current version. That version may be embodied in a modified, superseding order or permit, or it may consist of all terms and conditions of prior orders or permits that have not been superseded, as well as the additional terms added by amendment or supplement. In certain cases, the orders and/or permits are identified by name in the Standards; in other cases the terms are used in the generic sense. The reader is cautioned to check the text(s) of each order and permit identified either by name or by generic reference.
   - **Applicable Laws and Regulations** - Where the phrase "applicable laws and regulations" appears, it is to be understood as including all applicable laws, acts, regulations, administrative rules, ordinances, statutes, and orders and permits issued by a governmental or regulatory authority.

101.08 ORGANIZATION AND CLASSIFICATION OF DIVISIONS

101.08.A ORGANIZATION

1. The Design Standards contained herein are divided into categories: DIVISION; SECTION; and SUBSECTION, and are designated as in the following example:

   DIVISION 3 – STREETS AND ALLEYS

   SECTION – 305 PAVEMENT DESIGN

   SUBSECTION – 305.02 ASPHALT CONCRETE PAVEMENT

2. In addition, throughout the Design Standards:

   - Reference to a Section includes all applicable requirements of the Section.
   - When referring to a Subsection, only the number of the Subsection may be used; the word "Subsection" is therefore implied.
   - Where Section and Subsection numbers are not consecutive, the interval has been reserved for future expansion of the Standards.

- ❖ Paragraphs under Subsections are shown alphabetical (A), (B), etc. with subparagraphs shown numbered (1), (2), etc. Any further subparagraphs are alternated alphabetical and numerical.

101.08.B CLASSIFICATION OF DIVISIONS

1. The classification of Divisions contained in the Design Standards is as follows:

   a. DIVISION 1 – Contains specific information for the **GENERAL POLICIES, PROCEDURES, AND REQUIREMENTS** for the design of public works improvements. It contains many of the definitions and abbreviations used throughout these Design Standards.

   b. DIVISION 2 – Contains the **GENERAL TECHNICAL REQUIREMENTS** for the design of public works improvements that are to be operated and maintained by the City.

   c. DIVISION 3 – Contains specific requirements for the design of **STREETS AND ALLEYS** that are to be operated and maintained by the City.

   d. DIVISION 4 – Contains specific requirements for the design of **WATER DISTRIBUTION** systems that are to be operated and maintained by the City.

   e. DIVISION 5 – Contains specific requirements for the design of **SANITARY SEWERS** that are to be operated and maintained by the City.

   f. DIVISION 6 – Contains specific requirements for **STORMWATER MANAGEMENT** and the design of storm water facilities and storm drains and that are to be operated and maintained by the City.

101.09 CLARIFICATIONS, MODIFICATIONS, AND REVISIONS TO THE DESIGN STANDARDS AND STANDARD DRAWINGS

101.09.A GENERAL

1. These Design Standards and Standard Drawings are intended to be consistent with the most current provisions of the documents and requirements listed and referenced in Subsection 101.03. Periodic revisions to these Standards will be necessary to maintain consistency in that regard. The date appearing on the title page is the date of the latest revision for each Division. Parenthetical notations at the bottom of each page indicate the most recent change. It will be the user's responsibility to obtain and maintain his/her copy of these Standards with the latest changes.

2. Any user of this document may submit a request for clarification, modification, or revision to these Standards.

101.09.B REQUEST FOR CLARIFICATIONS

1. Requests for clarification or suggestions for revisions to these Standards should be submitted in writing to the City as follows:

   City of Stayton
   Public Works Department
   Attn: Design Standard Clarification
   362 North Third Avenue
   Stayton, OR 97383

2. Any submitted request for clarifications or interpretations will be provided by the City Engineer. The Public Works Director is the final authority on all questions which may arise as to the interpretation of these Standards.

101.09.C REQUEST FOR MODIFICATIONS

1. Modifications to these Standards may be requested as follows. When requested modifications involve or will have an impact on public safety, the City will rule in the direction of safety.

2. SUBMITTAL REQUIREMENTS FOR MODIFICATION OF STANDARDS

   a. Requests for modifications to these Standards shall be submitted in writing to the City as follows:

      City of Stayton
      Public Works Department
      Attn: Design Standard Modification
      362 North Third Avenue
      Stayton, OR 97383
      (503) 769-2919

   b. This written request shall state the desired modification, the reason for the request and a comparison between the Standard and the modification as far as performance and maintenance requirements.

   c. Any modification or variance of these Standards should be documented and reference nationally accepted standards and must meet or exceed the minimum requirements set forth in these Standards. The use thereof shall not compromise public safety or intent of the City's Standards.

   d. The written request is to include, but is not limited to, the manufacturer's specifications and testing results, design drawings, design calculations, and other pertinent information.

   e. Any deviations or special problems will be reviewed on a case-by-case basis and approved by the City Engineer.

3. CRITERIA FOR MODIFICATION OF STANDARDS

   a. The City Engineer may make project-specific modifications and amendments to an existing City Standard when any one of the following conditions is met:

      - The Standard is inapplicable to a particular situation.

- ❖ Topography, right-of-way, or other geographical conditions or impediments impose an undue economic hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety, accessibility, or anticipated life of facility.
- ❖ A change to a Standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public.
- ❖ The modification or amendment will be de minimis, per Subsection 101.09.E.

4. CITY REVIEW PROCESS FOR MODIFICATION OF STANDARDS

   a. The City Engineer will review a request to modify a City Standard relating to, and only for, a specific project. The City Engineer will:

      - ❖ Approve the request as proposed;
      - ❖ Approve the request with conditions; or
      - ❖ Deny the request.

   b. The City Engineer's decision will be documented in writing. A denial of a request will be accompanied with a brief explanation of the reason for the denial.

   c. Whether a request for modification is approved as proposed or with conditions, the approval is for project-specific use and shall not constitute a precedent or general modification of the City Standard.

   d. The applicant may appeal the City Engineer's decision regarding the request to modify a City Standard by filing a written appeal to the Public Works Director within fourteen (14) calendar days of the City Engineer's decision. The Public Works Director will consider the appeal and render a decision within seven (7) calendar days of the date the appeal is received by the City.

   e. The applicant may appeal the Public Works Director's decision regarding the request to modify a City Standard by filing a written appeal to the City Council, as provided in the Stayton Municipal Code.

101.09.D CITY-INITIATED MODIFICATIONS

1. During design or construction of a project, the City Engineer may:

   a. Modify and/or add requirements applicable to a specific City-approved project. Such addition or modification is for project-specific use and shall not constitute a precedent or general modification of the City Standard.

   b. The applicant may appeal the City Engineer's decision regarding the request to modify a City Standard by filing a written appeal to the Public Works Director within fourteen (14) calendar days of the City Engineer's decision. The Public Works Director will consider the appeal and render a decision within seven (7) calendar days of the date the appeal is received by the City.

   c. The applicant may appeal the Public Works Director's decision regarding the request to modify a City Standard by filing a written appeal to the City Council, as provided in the Stayton Municipal Code.

101.09.E REVISIONS

1. These Standards will be periodically updated due to changes in policy or procedures, new technology, design methods, and construction methods. Updates to these Standards will be posted on the City's website.

2. The City will make the following changes or corrections to the provisions of these Standards when the changes or corrections do not alter the sense or meaning of its provisions:

   - Misspellings. Misspelled words may be corrected.
   - Histories. Erroneous legislative histories may be corrected.
   - Cross-references. Cross-references may be changed to agree with new, amended, reenacted, renumbered, re-lettered, reallocated or corrected ordinances or resolutions.
   - Capitalization. Improper capitalization may be corrected.
   - Headings. Descriptive headings of titles, chapters, sections or subsections may be edited or added to briefly and clearly indicate the subject matter of the title, chapter, section or subsection.
   - Renumbering; re-lettering. The numbering or lettering of sections of ordinances and resolutions, including duplicative numbering or lettering created by conflicting enactments, may be corrected or properly arranged.
   - Changed job titles; agency names. References in these Standards to specific job titles or agency names that are changed without substantial affect on job or agency responsibilities may be changed to refer to the new job title or agency name.
   - Punctuation. Punctuation, including hyphenization, may be corrected.
   - Clerical Errors. Typographical or grammatical errors may be corrected.
   - Gender. Gender-specific terms that occur in an ordinance or resolution may be changed to gender-neutral terms and necessary grammatical changes to properly use the gender-neutral terms may be made.
   - Mandated Changes. Additions, deletions, or revisions to these Standards may be made when required for City compliance with mandatory local, regional, state, or federal regulations.
   - De minimis Changes. Additions, deletions, or revisions to these Standards may be made where the addition, deletion, or revision will have no material effect on the cost of constructing the item affected by the changed Standard. A material effect on the cost of constructing an item affected by a changed Standard is an increase or decrease in the cost of constructing an item that is greater than five percent (5%) of the cost of constructing the item under existing Standards. If a change to a Standard affects a specific project, the change, in addition to having no material effect on the cost of constructing the item affected by the changed Standard, must also have no material effect on the cost of a project. A material effect on the cost of a project is an increase or decrease in the cost of the project that is greater than one-tenth of one percent (0.1%) of the estimated total cost of the project at the time of issuance of the project's permit. If the City Engineer makes two or more de minimis changes to a Standard under the authority of this paragraph that affect a specific project, each de minimis change must meet the above requirements of this paragraph by (a) having no material effect on the cost of constructing the item affected by the changed Standard and (b) having no material effect on the cost of a project. In addition, the combined effect of the multiple changes to the Standards relating to that specific project must not increase or decrease the total cost of a project by more than three-tenths of one percent (0.3%) of the estimated total cost of the project at the time of issuance of the project's site development permit.

101.10 DEFINITIONS AND TERMS

Unless otherwise defined by applicable law or the Contract Documents, the following definitions and abbreviations shall apply whenever used.

Acceptance of Work
See Final Acceptance.

Alley
A public way or thoroughfare not more than 20 feet but not less than 10 feet in width which has been dedicated or deeded to the public for public use providing a secondary means of access to property, except in a downtown zone, where it may be the primary means of vehicular access.

Aggregate
Rock of specified quality and gradation.

Approved or Approval
Acceptance, given to the Contractor by the City Engineer, for specific materials, construction or manufacturing processes, changes in contract conditions, or any other items to be used in the Work.

Approved Equal
A product, component, or process whose use in or on a particular project is specified as a standard for comparison purposes only. The "equal" product, component, or process shall be the same or better than that named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project design requirements will be made solely by the City Engineer.

Approved Backflow Prevention Assembly
A testable assembly that has been investigated and approved by the Oregon Department of Human Services – Drinking Water Program.

Arterial Street
See Street.

As-Builts
See Record Drawings.

Attorney-in-Fact
An Entity appointed by another to act in its place, either for some particular purpose, or for the transaction of business in general.

Average Daily Demand
The total volume of water delivered to the system in one (1) year divided by three-hundred and sixty-five (365) days.

Backflow
The reverse of flow from its normal or intended direction of flow. Backflow can be caused by back-pressure or back-siphonage.

Backflow Preventer
An approved means to prevent backflow into the potable water system.

Back-siphonage

Backflow that results from negative pressure (partial vacuum) in the supply piping system.

Base
A Course of specified material of specified thickness placed below the pavement.

Bikeway
Any road, path, or way that is some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes. The four types of Bikeways are as follows:

- **Bike Lanes**
  A lane, typically 6 feet in width, in the Traveled Way, designated by striping and Pavement markings for the preferential or exclusive use of bicyclists.

- **Bike Path**
  A designated travel-way for bicyclists that is completely separated from the vehicular travel lanes and is within independent rights-of-way.

- **Shared Bikeway**
  A travel-way for a bicyclist, typically consisting of a paved shoulder that is 4-feet or wider, that is shared with vehicular traffic. The bike way is designated with signs for bicycling (no pavement markings for the bike lanes) and typically shared by bicyclists and pedestrians in rural areas. Synonymous with the term bike route.

- **Shared Roadway**
  A travel lane that is shared by bicyclists and motor vehicles.

Best Management Practices (BMPs)
Schedules of activities, prohibitions of practices, maintenance procedures or other management practices to prevent or reduce the pollution of waters of the state. BMPs for storm water may include operational and structural source controls that minimize and prevent contaminants from entering storm water as well as treatment BMPs that remove contaminants contained in storm water runoff before disposal or discharge.

Boulders
Particles of rock that will not pass a 12-inch square opening.

Bridge
A single or multiple span structure, including supports, that carries motorized and non-motorized vehicles, pedestrians, or utilities on a roadway, walk, or track over a watercourse, highway, railroad, or other feature.

Building Fire Flow Requirements
Fire flow requirements based on type of occupancy and building material construction.

Building Water Supply
The pipe carrying potable water from the water meter or other approved source of water supply to a building. Building water supply shall also mean customer service line.

Building Official
The person(s) empowered by the City Council to administer and enforce the Stayton Municipal Code and building, plumbing, electrical, and other similar codes.

Buttress
A rock fill placed at the toe of a landslide or potential landslide in order to resist\slide movement. Also can be a perpendicular wall to retaining wall to reinforce from overturning.

CAD
Computer aided design.

Check Valve
A valve which allows flow in only one direction.

City
The City of Stayton, a municipal corporation of the State of Oregon, and its elected officials, officers, employees, volunteers and agents.

City-Controlled Lands
Lands owned by the City, or controlled by the City under lease or agreement, or under the jurisdiction and control of the City for the purposes of the Contract.

City Administrator
An appointed official to serve as chief executive and administrative officer to support the information and policy-making needs of the Council, implement Council decisions and directives, and manage the day-to-day operations of City departments. Under the Council/Manager form of government, the Council establishes policies for operations within the City, and it is the City Administrator's responsibility to ensure these policies are carried out. Synonymous with the term City manager.

City Attorney
A licensed attorney hired or appointed by the City Council to provide legal advice and assistance to the City Council, the Planning Commission, and City officials.

City Engineer
A registered professional engineer licensed to practice in the State of Oregon, or his/her authorized representative, acting under the direction of the Public Works Director, who directs and coordinates engineering activities relating to City of Stayton public works.

City Inspector
The authorized representative of the City whose authority, instructions, and decisions shall be limited to the particular duties and responsibilities entrusted to him in making detailed inspections of any or all portions of the work or materials therefore.

Clay
Soil passing a No. 200 sieve that can be made to exhibit plasticity (putty-like properties) within a range of water contents.

Clear Zone
Roadside border area, starting at the edge of the Traveled Way that is available for safe use by errant vehicles. Establishing a minimum width Clear Zone implies that rigid objects and certain other hazards within the Clear Zone should be relocated outside the Clear Zone, or shielded, or remodeled to make them break away on impact or be safely traversable.

Close Conformance
Where working tolerances are given on the Plans or in the Specifications, Close Conformance means compliance with those tolerances. Where working tolerances are not given, Close Conformance means compliance, in the City Engineer's judgment, with reasonable and customary manufacturing and construction tolerances.

Coarse Aggregate
Crushed Rock or crushed Gravel retained on a 1/4-inch sieve, with allowable undersize.

Cobbles
Particles of Rock, rounded or not, that will pass a 12-inch square opening and be retained on a 3-inch sieve.

Code
The City of Stayton Municipal Code (SMC) and ordinances and any other federal, state, county, or local codes, laws, or regulations affecting the work.

Collection Systems
Facilities maintained by the City connected thereto for the collecting, pumping, conveying, and controlling of sanitary sewer.

Collector Street
See Street.

Commercial Grade Concrete
Concrete furnished according to Contractor proportioning, placed in minor Structures and finished as specified.

Commercial User
Any user of the sanitary sewer who is neither a residential nor an industrial user. This definition is specific to these Design Standards and is not intended to be used for billing purposes.

Construction Plans
See Plans.

Contract
The written agreement in the Contract Documents that sets forth the rights and obligations of the City and the Contractor for publicly financed public improvements.

Contract Documents
The Contract, including the Invitation to Bid, Instructions to Bidders, the Proposal, Contract, General Conditions (General Requirements), Supplementary Conditions (Special Provisions), Plans, Specifications, schedule of Contract Prices, Addenda, Permits, Payment and Performance Bonds, Insurance Certificate, and Change Orders for any approved revisions made during the performance of the work to any of the above listed documents for publicly financed public improvements.

Contractor
Any individual, firm, co-partnership, corporation or any combination thereof who has or have entered into a Contract either with the City or will be performing public works improvements as part of a particular development or permitted project. For publicly financed public improvement projects, "contractor" will mean the entity awarded the Contract. For privately financed public improvement projects and other work being performed under permit issued by the City, the "contractor" will mean the entity that is listed on the permit.

Cooling Water
Water other than sewage or industrial waste that is used as a medium for carrying away excess heat and that is not co-mingled with any other liquid waste or solids carrying stream.

Copy
An imitation or reproduction of an original; a duplicate.

Core
To cut and remove a portion of pipe, manhole, or pavement with a circular hollow drill.

Course
A specified Surfacing Material placed in one or more Lifts to a specified thickness.

Coverage
A single Pass by a piece of Equipment over an entire designated area.

Creek
Any and all surface water routes generally consisting of a channel having a bed, banks, and/or sides in which surface waters flow in draining from higher to lower land, both perennial and intermittent; the channel, banks, and intervening artificial components, excluding flows that do not persist for more than twenty-four (24) hours after cessation of 1/2-inch of rainfall in a twenty-four (24) hour period from October through March.

Cross Connection
Any actual or potential connection, link, or channel between a domestic water supply system and a pipe or piping system used or intended to be used for some other purpose or between a domestic water supply system and a plumbing fixture, appliance, receptacle, vessel, or other service, or a source other than the intended source of water supply whereby it may be possible for contaminated water or water of questionable or unsafe quality, or fluid substance other than potable water, to enter any part of the domestic water supply system.

Cross Section
The exact image formed by a plane cutting through an object, usually at right angles to a central axis, to determine area or to show detail.

Cul-de-sac
A dead-end street having a circular turnaround area at the end.

Curb
A concrete or asphalt line, typically six-inches wide and six-inches of exposure, indicating the edge of the vehicular roadway within the overall Right-of-Way to: serve as a safety barrier to prevent motorists from driving onto the shoulder, median, sidewalk, pavement, or other designated non-vehicular pathway; and/or to control or direct stormwater drainage along a vehicular roadway.

Cut Sheets
Sheets of tabulated data indicating stationings, structures, fittings, angle points, beginning of curve, points on curve, end of curves, street grade, pipe slope, staking offset, various elevations, and offset cuts for streets, waterlines, sanitary sewers, and storm drains.

Datum, Horizontal
The horizontal survey control network of the City of Stayton.

Datum, Vertical
The vertical elevation survey control network of the City of Stayton identified as "The National Geodetic Vertical Datum of 1929" that corresponds to the USC&GS 1947 Datum.

Dead-end Street
See Street.

Definition of Words
That whenever in these Design Standards, the words “shall”, “will”, "directed", "required", "permitted", "ordered", "designated", or words of like importance are used, they shall be understood to mean the direction, requirement, permission, or order of designation of the Design Engineer. Similarly, the words "approved", "acceptable", or "satisfactory", shall mean approved by, acceptable to, or satisfactory to the City Engineer.

Design Engineer
A registered professional engineer licensed to practice in the State of Oregon who is responsible for the design of a public improvement project and has stamped and sealed the plans.

Design Intensity
The uniform rainfall intensity, inches per hour, associated with a duration equal to the time of concentration of the basin and a specified return frequency (e.g., 2-year, 10-year, etc.) that is used to calculate the peak discharge rate to be used for stormwater conveyance system design.

Design Storm
A rainfall event of a specified duration (e.g., 6-hour, 12-hour, 24-hour) and return frequency (e.g., 2-years, 10-years, etc.) that is used to calculate the runoff volume and/or discharge rate to be used for stormwater system design.

Detention
The storage and subsequent release of excess stormwater runoff to control peak discharge rates prior to discharge to the storm drain or natural drainageway.

Detention Volume
The storage volume required to control the peak discharge rates at the point of discharge from a development.

Developer
Any individual, partnership, corporation, joint venture, or other legal entity in the primary business of developing real property.

Development
Any man-made change to improved or unimproved real estate, including but not limited to construction, installation, or alteration of buildings or other structures, condominium conversion, land division, establishment or termination of a right of access, storage on real property, tree cutting, and clearing, mining, dredging, filling, grading, paving, excavation or drilling operations.

Direct Discharge
Any stormwater discharge from a developed site that has not passed through approved water quality treatment prior to its ultimate outfall to a natural drainageway, wetland, or other natural resource area.

Distribution System
Distribution main pipelines, pumping stations, valves, and associated equipment used to transmit water from the supply source to the service line.

Domestic Sewer
The liquid and water-borne waste derived from the ordinary living processes, free from industrial wastes, and of such character to permit satisfactory disposal, without special treatment, into the public sanitary sewer system or by means of private sanitary sewer disposal system.

Double Check Valve Assembly (DCVA)
An assembly composed of two single, independently acting approved check valves, including tightly closing shut-off valves located at each end of the assembly and fitted with properly located test cocks.

Double-Detector Check Valve Assembly (DDCVA)
An approved double check valve assembly with a parallel meter. The purpose of this assembly is to provide double-check valve protection for the distribution system and at the same time provide partial metering of the fire system showing any system leakage or unauthorized use of water.

Drainage Basin
Stormwater drainage basins for the City of Stayton, as defined in the Storm Water Master Plan.

Drainage Facilities
Pipes, ditches, detention basins, creeks, culvert bridges, etc., used singularly or in combination with each other for the purpose of conveying or storing stormwater run-off.

Drainage Report
A required stormwater report prepared by the Design Engineer that provides a hydrologic and hydraulic evaluation of the stormwater impacts associated with a particular development. The report shall demonstrate how the proposed stormwater management and water quality facilities will comply with City public works standards. The report must be signed and stamped by a professional engineer registered in the State of Oregon.

Drawings
See Plans.

Driveway
A minor private way used by vehicles and pedestrians to gain access from an approved public access or right-of-way onto a lot or parcel of land.

Drywell
See Stormwater Sump.

Durable Rock
Rock that has a slake durability index of at least ninety percent (90%) based on a two-cycle slake durability test, according to ASTM D 4644. In the absence of test results, the City Engineer may evaluate the durability visually.

Dwelling Unit
A facility designed for permanent or semi-permanent occupancy and provided with minimum kitchen, sleeping and sanitary facilities for one family.

Easement
An area outside public right-of-way in which the property owner (grantor) conveys a privilege to a second party (grantee) the right to construct, operate, and maintain public works facilities on such property. The City is typically grantee for public easements, and a neighboring property owner is typically grantee for private easements.

Emulsified Asphalt
An emulsion of asphalt cement and water with a small quantity of an emulsifying agent.

Emulsified Asphalt Concrete
A mixture of Emulsified Asphalt and graded Aggregate.

Engineer of Record
See Design Engineer

Entity
A natural person capable of being legally bound, sole proprietorship, limited liability company, corporation, partnership, limited liability partnership, limited partnership, profit or nonprofit unincorporated association, business trust, two or more persons having a joint or common economic interest, or any other person with legal capacity to Contract, or a government or governmental subdivision.

Equipment
All machinery, tools, manufactured products, and fabricated items needed to complete the Contract or specified for incorporation into the Work.

Establishment Period
The time specified to assure satisfactory establishment and growth of planted Materials.

Existing Surfacings
Pavements, slabs, curbs, gutters, walks, driveways, and similar constructions of bricks, blocks, Portland Cement Concrete, bituminous treated materials, and granular surfacing materials on existing streets and alleys.

Expansion Joint
A joint to control cracking in the concrete surface structure and is filled with preformed expansion joint filler.

Final Acceptance
The date at which the City accepts the public improvements for ownership and operation upon successful correction of any noted Warranty deficiencies and upon payment of all fees and charges to the City.

Final Completion
The date at which the work, and all related aspects of the work, has progressed to the point where, in the opinion of the City Engineer, all requirements of the Contract Documents have been met with the exception of Warranty obligations; all construction equipment and unused materials have been removed; all waste has been removed and the project area thoroughly cleaned and restored and when the Work is one-hundred percent (100%) complete in every respect and can be utilized for the purpose for which it was intended and the Project

Final Inspection
The inspection conducted by the City Engineer to determine that the Project has been completed in accordance with the Contract.

Fine Aggregate
Crushed Rock, crushed Gravel, or Sand that passes a 1/4 inch sieve, with allowable oversize.

Fire Protection Service
A connection to the public water main intended only for the extinguishment of fires and the flushing necessary for its proper maintenance.

Flood Insurance Rate Map (F.I.R.M.)
The official map on which the Federal Emergency Management Agency shows flood elevations for various creeks and rivers and has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Floodplain
Areas shown on the Flood Insurance Rate Map as areas of special flood hazard.

Floodway
The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 1 foot.

French Drain or Leach Line
A covered underground excavated trench filled with washed gravel that surrounds a perforated delivery pipe used to receive storm water, wherein the sides and bottom of the trench are porous, permitting the storm water to seep into the ground.

Granular Material
Graded and selected free-draining material composed of particles of Rock, Sand, and Gravel.

Grade
The degree of inclination of a road or slope.

Gravel
An unconsolidated mixture of rock fragments or particles of rock, rounded or not, that will pass a 3-inch sieve and be retained on a No. 4 sieve.

Highway
Every road, street, thoroughfare and place, including bridges, viaducts and other structures within the boundaries of the State, open, used or intended for use by vehicular traffic.

Hydrant Lead
The waterline connecting the fire hydrant to the auxiliary valve on the City distribution main. Synonymous with the term Hydrant lateral.

Impervious Areas
Those hard surface areas located upon real property that either prevent or retard saturation of water into the land surface, as existed under natural conditions pre-existent to development, and cause water to run off the land surface in greater quantities or at an increased rate of flow from that present under natural conditions pre-existent to development. Common impervious surfaces include, but are not limited to rooftops, concrete or asphalt sidewalks, walkways, patio areas, driveways, parking lots or storage areas and graveled, oiled, macadam or other surfaces that similarly impact the natural saturation or runoff patterns that existed prior to development.

Improvements
General term encompassing all phases of work to be performed under a Contract and is synonymous with the term Project or Work.

Industrial User
A business establishment that uses water in a variety of chemical, manufacturing, refining, or other material processing operations, which results in sanitary sewer that is significantly altered in strength, composition, and character from that of domestic sewage. This definition is specific to these Design Standards and is not intended to be used for billing purposes.

Industrial Waste
Solid, liquid, or gaseous waste resulting from any industrial, manufacturing, trade, or business process from development, recovery, or processing of natural resources.

Infiltration system
A drainage system designed to allow stormwater to percolate into the soil.

Inlet
A structure or other appurtenance (i.e., catch basin) that collects stormwater runoff from the ground surface for the purpose of conveying it through a piped storm system. Also used to describe the connection point of a pipe conveying stormwater into a junction structure.

Interceptor Sewer
A primary public sanitary sewer pipe that conveys sanitary sewer directly into the Wastewater Treatment Plant.

Irrigation Service
A metered connection intended for seasonal use and delivering water that is not discharged to the sanitary sewer system.

Junction
A structure (i.e., catch basin or manhole) within a storm drain system for the purpose of combining multiple pipe inlets, facilitating changes in horizontal or vertical alignment, providing access for operation and maintenance, or other related function.

Leveling
Placing a variable-thickness Course of Materials to restore horizontal and vertical uniformity to existing Pavements, normally continuous throughout the Project.

Lift
The compacted thickness of material specified for use in the construction of the Project or for incorporation into the Work placed by Equipment in a single Pass.

Local Street
See Street.

Longitudinal Joint
An interface between two adjacent asphalt or concrete mats, which in regards to hot-mixed asphalt surfacing of roadways, typically follows a course approximately parallel to the centerline of the roadway.

Low Impact Development
A sustainable landscaping approach that can be used to replicate or restore natural watershed functions and/or address targeted watershed goals and objectives.

Major Trees
Trees that are 30-inches or larger in diameter and are either within the right-of-way or public easement or are within 10-feet of the right-of-way or public easement. Major trees are important to the City and design modifications of public facilities may be required to accommodate tree preservation.

Manufactured Treatment Device
A manufactured device, often proprietary, in which stormwater receives treatment before being discharged to another BMP or to the receiving water. This is a broad category of BMPs with a variety of pollutant removal mechanisms and varying pollutant removal efficiencies.

Master Plans
Documents adopted by Stayton City Council that describe and evaluate the City's public infrastructure, including existing and planned transportation, water, sanitary sewer, and storm drain systems.

Materials
Any natural or manmade substance specified for use in the construction of the Project or for incorporation into the Work.

Maximum Daily Demand
The maximum volume of water delivered to the system in any single day of the year.

Median
The portion of a divided highway or street separating traffic traveling in opposite directions.

Minor Partition
See Partition.

Multiple Course Construction
Two or more Courses, exclusive of Patching or Leveling, placed over the entire Roadway width.

Multiple Family Dwelling
A building or portion designed thereof for occupancy by two or more families, living independently of each other.

Multi-Use Path
That portion of the highway or street Right-of-Way or a separate Right-of-Way, physically separated from motor vehicle traffic and designated for use by pedestrians, bicyclists and other non-motorized users.

MUTCD
The Manual on Uniform Traffic Control Devices as published by the Federal Highway Administration.

Natural Grade
The grade of the land in an undisturbed state.

Natural Location
The location of channels, swales, and other non-manmade conveyance systems, as defined by the first documented topographic contours existing for the subject property, either from maps or photographs.

Neat Line
Theoretical lines specified or indicated on the Plans for measurement of quantities.

Nondurable Rock
Rock that has a slake durability index of less than 90% based on a two-cycle slake durability test, as tested by ASTM D 4644, or Rock that is observed to readily degrade by air, water, and mechanical influence.

Notice
A written communication delivered by hand or by mail to the authorized individual, member of the firm or officer of the corporation for which it is intended. If delivered or sent by mail it shall be addressed to the last known business address of the individual, firm or corporation. In the case of a Contract with two (2) or more persons, firms or corporations, notice to one shall be deemed notice to all.

Notice of Final Acceptance
Written confirmation by the City Engineer stating that the City has made Final Acceptance of the Project and thereby authorizing the release of the Warranty.

Notice of Final Completion
Written confirmation by the City Engineer that the Project has reached Final Completion, thereby initiating the Warranty period.

Notice of Substantial Completion
Written confirmation by the City Engineer when the Work, or a specified part thereof, has reached Substantial Completion. The Notice of Substantial Completion may also provide a punch list of remaining items for the Project that have yet to be completed.

ODOT/APWA Standard Specifications for Construction
The latest edition of the Specification Document published by the Oregon Department of Transportation and the American Public Works Association entitled Oregon Standard Specifications for Construction. This document is available from the Oregon Department of Transportation, Salem, Oregon.

On-Site Detention
The detention of stormwater from a private storm drain in a privately owned and maintained storm drain system to provide a controlled release, at or below a maximum allowable rate, to the public storm drain system.

On-Site Work
Any Work taking place on the Project Site, including designated staging areas adjacent to the Project Site.

Organic Soil
A Soil with sufficient organic content to influence the Soil properties.

Outfall
The point at which collected, concentrated stormwater is discharged, generally from a pipe(s), from a development to an open drainage element such as a ditch, channel, swale, stream, river, pond, lake or wetland.

Owner
The owner of record of real property as shown on the latest tax rolls or deed records of the County, and includes a person who furnishes evidence that he/she is purchasing a parcel of property under a written recorded land sale contract. For public improvement projects, the owner is the City of Stayton, acting through its legally constituted City Council.

Panel
The width of specified Material being placed by Equipment in a single Pass.

Pass
One movement of a piece of Equipment over a particular location.

Patching
Placing a variable-thickness Course of Materials to correct sags, dips, and/or bumps to the existing grade and Cross Section, normally intermittent throughout the Project.

Pavement
Asphalt concrete or Portland cement concrete placed for the use of motor vehicles, bicycles, or pedestrians on Roadways, Shoulders, Multi-Use Paths and parking areas.

Partition
To divide an area or tract of land into two (2) or three (3) parcels within a calendar year when such area or tract of land exists as a unit or contiguous units of land under single ownership at the beginning of such year. See the Stayton Municipal Code.

Peak Hour Demand
The maximum volume of water delivered to, or from the system, in any single hour of the year.

Peak Run-off
The maximum stormwater runoff rate determined for the design storm or design rainfall intensity.

Peat
A soil composed primarily of vegetative matter in various stages of decomposition, usually with an organic odor, dark brown to black color, and a spongy consistency.

Performance Bond
The approved security furnished by the Contractor's Surety as a guaranty of the Contractor's performance for the materials, equipment, and labor furnished to complete the Work.

Person
Individual firm, corporation, association, agency, or other entity.

Plans
The official construction plans or drawings, which may include some or all of the following: profiles, cross sections, elevations, details, and other working, supplementary, and detail drawings, or reproductions thereof, that shows the location, character, dimensions, and details of the Work to be performed. The construction plans for privately financed public improvements are not deemed "official" or "approved" unless stamped and signed by the Design Engineer and marked approved by the City Engineer. For publicly funded public works improvement projects, construction plans may either be bound in the same book as the balance of the Contract Documents or bound in separate sets and are a part of the Contract Documents, regardless of the method of binding. Synonymous with the term Drawings.

Potable Water
Water that is satisfactory for drinking, culinary, and domestic purposes and meets the requirements of the health authority having jurisdiction.

Pre-Development
A site with natural vegetation on native soils.

Preliminary Review
Review of the construction plans by the City Engineer as outlined in these standards. All City Engineer comments and provisions of these Design Standards must be addressed prior to final review and approval for construction.

Private Collection System
A privately owned and maintained lateral sanitary sewer system installed to serve multi-unit structures on single ownership properties that cannot legally be further divided.

Private Distribution System
A privately-owned and maintained water distribution system serving an industrial or commercial subdivision or a multi-building development on a single lot served through a master meter and backflow prevention assembly installed at an approved location.

Private Road or Street
Any roadway for vehicular travel which is privately owned and maintained and which provides the principal means of access to abutting properties.

Private Service
That part of each property's utility service line that is on private property outside of any public rights-of-way or easements.

Private Storm Drain
A privately owned and maintained storm drain system located outside the building envelope which serves one or multiple building storm drains, catch basins, area drains, or other drainage facilities on private property outside of public easements and rights-of-way.

Project
General term encompassing all phases of the work to be performed under the Contract and is synonymous with the term Improvements or Work.

Projected Maximum Daily Demand
The maximum volume of water anticipated to be delivered to the system in a future single-day of a year divided by one (1) day.

Project Site
The geographical area of the real property on which the Work is to be performed, including designated contiguous staging areas.

Pronouns (Use Of)
As used herein, the singular shall include the plural and the plural the singular; any masculine pronoun shall include the feminine or neuter gender; and the term "person" includes natural person or persons, firm, co-partnership, corporation, or association, or combination thereof.

Public Storm Drain
Any storm drain in public right-of-way or easement operated and maintained by the City.

Public System
Any street, water, sanitary sewer, storm drain, or other public infrastructure in public right-of-way or easement operated and maintained by the City.

Public Traffic
Vehicular or pedestrian movement not associated with the Work, on a public way.

Public Works Director
The person employed or designated by the City as responsible for implementing policy and administrative issues related to public works. The Public Works Director will coordinate with and rely upon the City Engineer with regard to issues involving technical and engineering aspects or decisions.

Public Works Standards
The Public Works Standards adopted by the City of Stayton and containing Design Standards, Standard Construction Specifications, Standard Drawings, and Standard Forms.

Public Works Superintendent
The superintendent for the Wastewater, Water, Stormwater, or Streets divisions of the City of Stayton's Public Works Department, authorized by the Public Works Director, who oversees and performs the administrative, supervisory, and technical work for their respective division.

Railroad
Publicly or privately owned rail carriers, including passenger, freight, and commuter rail carriers, their tenants, and licensees. Also, Utilities that jointly own or use such facilities.

Receiving Bodies of Water
Creeks, streams, lakes, and other bodies of water into which waters are artificially or naturally directed.

Record Drawings
Construction plans signed and dated by the Design Engineer indicating that the plans have been reviewed and revised, if necessary, to accurately show all as-built construction. Also referred to as As-Builts.

Reduced Pressure Principle Backflow Prevention Device (RPBD)
A device for preventing backflow which has two check valves, a differential relief valve located between the two check valves, two shut-off valves, one on the upstream side and the other on the downstream side of the check valves, and four test cocks for checking the water tightness of the check valves and the operation of the relief valve.

Reference Specifications
Bulletins, standards, rules, methods of analysis or test, codes and specifications of other agencies, Engineering societies, or industrial associations referred to in the Contract Documents. All such references specified herein refer to the latest edition thereof, including any amendments, updates, or new editions thereto which are in effect and published at the time of the Invitation to Bid for a publicly financed public improvements or date of development application for privately financed public improvements.

Release Rate
The controlled rate of release of drainage, storm, and runoff water from property, storage pond, runoff detention pond, or other facility during and following a storm event.

Residential Street
See Local Street.

Residential User
The owner, lessee, or occupant of a single dwelling unit in one structure.

Retention
The process of collecting and holding surface and stormwater runoff with no surface outflow from a developed property.

Right-of-Way
A general term denoting public land, property, or interest therein, acquired for or devoted to a public street, public utility, public access or public use. Typically, the area between boundary lines of a street.

Roads
See Streets.

Roadbed
Completed excavations and embankments for the Subgrade, including ditches, side slopes, and slope rounding, if any.

Roadside
The area between the outside edges of the Shoulders and the Right-of-Way boundaries. Unpaved median areas between inside Shoulders of divided Highways and infield areas of interchanges are included.

Roadway
That portion of a highway or street and its appurtenances between curbs, gutters, or ditches, improved, designed, or ordinarily used for vehicular travel. If a highway or street includes two or more separate Roadways, the term "Roadway" refers to any such Roadway separately, but not to all such Roadways collectively. (See Traveled Way.)

Rock
Natural deposit of solid material composed of one or more minerals occurring in large masses or fragments.

Sand
Particles of Rock that will pass a No. 4 sieve and be retained on a No. 200 sieve.

Sanitary Sewer System
The Sanitary Sewer System shall include all interceptors, mainlines, service laterals, force mains, pump stations, manholes, cleanouts, and related facilities, all of which are located within dedicated public Right-of-Way or easements and all of which are owned, operated, and maintained by the City. Overall, that public infrastructure maintained and operated by the City for collecting, pumping, and conveying domestic sewer and industrial waste.

Sedimentation
Deposition of erosional debris soil sediment transported by water.

Sewer Basin
Sanitary sewer drainage basins and service areas for the City of Stayton, as defined in the Wastewater Facility Plan.

Sewer Service Lateral
That part of each property's sanitary sewer service line which extends from the public main to the limit of the public right of way. For sanitary sewer mainlines located within easements, the limit of the sewer lateral will be the edge of a sanitary sewer easement.

Shall
An auxiliary word used to express a command which describes a specific requirement or course of action that is required of the Contractor and/or Design Engineer.

Shoulder
The part of a Roadbed contiguous to the Traveled Way or Roadway, whether paved or unpaved, for accommodating stopped vehicles, for emergency use and for lateral support of Base and surface Courses. Term applies to uncurbed streets and roads.

Shown
As used herein, the word “shown”, or “as shown”, shall be understood to refer to work shown on the Plans or in the Contract Documents.

Sidewalk
A path along the side of a road designated for pedestrians and sometimes for the use of non-motorized vehicles.

Sight Distance Triangle
The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way. The intersection and driveway sight distance is measured from an eye height of 3.5 feet above the controlled road at least 15 feet from the edge of the vehicle travel lane of the uncontrolled public road to an object height of 4.25 feet on the uncontrolled public road. For driveways along local access roads in urban and residential areas, the sight distance triangle is measured along the property lines of the street and along the driveway.

Silt
Soil passing a No. 200 sieve that is non-plastic or exhibits very low plasticity.

Single Family Dwelling
Any residential building designed to house one family.

Specified
As used herein, the word “specified”, or “as specified”, means as required by the Contract.

Standard Construction Specifications
The terms, directions, and provisions set forth which contain construction materials and workmanship requirements included herein and included as a permanent part of the Public Works Standards. Synonymous with the term Specifications or Standard Specifications.

Standard Drawings
Detailed representation of structures, devices, or instructions as set forth in the Public Works Standards as adopted by City as a standard. Synonymous with the term Standard Plans or Standard Details.

State
The State of Oregon.

State of Oregon Plumbing Specialty Code
The State of Oregon Plumbing Specialty Code adopted by the International Association of Plumbing and Mechanical Officials (current edition) as revised by the State of Oregon and called the "Oregon Plumbing Specialty Code".

Station
A distance of 100 feet measured horizontally along the established centerline of a street, sewer, or other work, unless specified otherwise.

Stormwater quality facility
A stormwater management facility that has a primary purpose of improving water quality. These include stormwater planters, vegetated basins, vegetated filter strips, constructed treatment wetlands, and manufactured treatment technology.

Stormwater quantity facility
A stormwater management facility with a primary purpose of controlling stormwater flow to the City’s waterways. These include pipes, catch basins, waterways, detention basins, culverts, and other related facilities, used singularly or in combination for purpose of collecting, conveying, and storing surface runoff.

Stormwater Sump
A drainage facility (or system) designed to utilize the infiltration capability of the ground, commonly referred to as percolation, to return surface and stormwater to the soil.

Street
Any street, avenue, boulevard, alley, lane, bridge, road, public thoroughfare or public way and any land over which a right-of-way has been obtained or granted for any purpose of public travel. The City has the following designated streets:

- **Principal Arterial (Major Arterial)**
  A street that carries the highest volume of traffic in the City and primarily provides access through the City or from the City to other cities. The principal arterial streets are identified in the Stayton Transportation System Plan.

- **Minor Arterial**
  A street that collects and distributes traffic from the principal arterials to streets of lower functional classifications providing for movement within specific areas of the city. Minor arterials service through traffic and provide direct access for commercial, industrial, office, and multi-family development but, generally not for single family residential properties. The minor arterial streets are identified in the Stayton Transportation System Plan.

- **Major Collector (Neighborhood)**
  A street that provides for land access and circulation within and between residential neighborhoods and commercial and industrial areas. Collectors provide direct access to adjacent land uses but still service through traffic. The major collector streets are identified in the Stayton Transportation System Plan.

- **Minor Collector**
  A street that is primarily within a residential area that is used to funnel traffic to major collectors. Minor collectors allow direct access for abutting properties. The minor collector streets are identified in the Stayton Transportation System Plan.

- **Local Street (Residential)**
  A street used exclusively for access to abutting properties and offers the lowest level of traffic mobility. Through-traffic movement is deliberately discouraged. Also referred to as a minor or residential street.

- **Cul-De-Sac**
  A short, dead-end street with a circular vehicular turn-around at the dead-end.

- **Dead-End Street**
  A street or series of streets that can be accessed from only one point. Dead-end streets can be either temporary (intended for future extension as part of a future street plan) or permanent. Permanent dead-end streets must provide adequate turn-around capability.

- **Partial Street (Three-Quarter or Half-Street)**
  A portion of the ultimate width of a street, usually along the edge of a subdivision where the remaining portion of the street shall be provided when adjacent property is subdivided.

Street Tree
A street tree is defined as a living, woody plant typically having a single trunk of at least 1.5 inches in diameter at a point 4 feet above mean ground level at the base of the trunk that is located in the public right-of-way.

Structures
Bridges, retaining walls, endwalls, cribbing, buildings, culverts, manholes, catch basins, drop inlets, sewers, service pipes, underdrains, foundation drains, and other similar features which may be encountered or constructed in the Work.

Subbase
A Course of specified material of specified thickness between the Subgrade and a Base.

Subcontractor
An individual, partnership, firm, corporation, or any combination thereof, which the Contractor has selected to perform part of the Work.

Subdivision
To partition a parcel of land into four (4) or more parcels for the purpose of transfer of ownership or building development, either immediate or future, when such a parcel exists as a unit or contiguous units under a single ownership as shown on the tax roll of year preceding the partitioning, or has existed as a unit or contiguous units under a single ownership as shown on the tax roll for any year subsequent to the passage of the Stayton Municipal Code.

Subgrade
The top surface of completed earthwork on which subbase, base, surfacing, pavement, or a course of other material is to be placed.

Substantial Completion
The Work (or a specified part thereof) has progressed to the point where, in the opinion of the City Engineer, it is sufficiently complete in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended.

Substructure
Those parts of a structure which support the superstructure, including bents, piers, abutments, and integrally built wingwalls, up to the surfaces on which bearing devices rest. Substructure also includes portions above bearing surfaces when those portions are built integrally with a substructure unit (e.g., backwalls of abutments). When substructure and superstructure elements are built integrally, the division between substructure and superstructure is considered to be at the bottom soffit of the longitudinal or transverse beam, whichever is lower. Culverts and rigid frames are considered to be entirely substructure.

Superintendent
The authorized representative of the Contractor who is responsible for continuous field supervision, coordination, and completion of the Work and is authorized to receive and fulfill instructions from the City Engineer.

Superstructure
Those parts of a structure above the substructure, including bearing devices.

Supplemental Agreements
Agreements made between the City and other governmental agencies, utility companies, or other entities that are included in the Contract Documents and affect some aspect of the work.

Surety
The corporate body which is bound with and for the Contractor, for the acceptable performance of the Contract, and for the payment of all obligations arising out of the Contract Documents. Surety shall be licensed to conduct the business of surety in the State of Oregon and named in the current list of approved sureties published by the U. S. Treasury Circular 570.

Surfacing
The course or courses of material on the traveled way, auxiliary lanes, shoulders, or parking areas for vehicle use.

Surveyor
A registered professional licensed to practice surveying in the State of Oregon having special knowledge of the principals of mathematics, the related physical and applied sciences, and the relevant requirements of law, who is or will be responsible for surveying of the Project.

Swale
A broad-bottomed, shallow, vegetation-lined channel that allows for reduced flow velocity and filtration of stormwater, generally with flow depths less than 1-foot.

Terrace
A relatively level step constructed in the face of a grade surface for drainage, erosion control, and maintenance purposes.

Ton
The short ton of 2,000 pounds avoirdupois.

Topsoil
Soil ready for use in a planting bed.

Traffic Lane
That part of the Traveled Way marked for moving a single line of vehicles.

Trail
A pathway designed to provide walking, (and sometimes bicycling), equestrian and other non-motorized recreational and transportation opportunities.

Transverse Joint
An interface between two adjacent asphalt or concrete mats, which in regards to surfacing of roadways, typically follows a course approximately perpendicular to the centerline of the roadway.

Traveled Way
That portion of the roadway for the movement of vehicles, exclusive of shoulder, auxiliary lanes, parking lanes, berms, and Shoulders.

Treatment Volume
The storage volume necessary to provide the required level of water quality treatment of stormwater prior to discharge to a storm drain element, facility, or natural drainage element.

Trunk Sewer
A sanitary sewer pipe that is primarily intended to receive sanitary sewer from collector pipes, other trunk sewers, existing major discharges of raw or inadequately treated sanitary sewer, or water pollution control facilities.

Trunk Storm Drain System
The portions of the storm drain system of the City which receives waters from an adjacent land area in excess of 20 acres. The trunk storm drain system may consist of watercourses or man-made facilities such as pipes, ditches, and culverts.

Turnaround Area
A paved area of sufficient size and configuration that a motor vehicle may maneuver so as to travel in the opposite direction.

Typical Section
That Cross Section established by the Plans which represents in general the lines to which the Contractor shall work in the performance of the Contract.

Underground Injection Control (UIC)
Any system, structure, or activity that is intended to discharge fluids below the ground surface and classified by the Oregon Department of Environmental Quality (DEQ) as an underground injection system (UIC). UICs are regulated by DEQ to limit and control injection of wastes into the subsurface to protect existing groundwater quality for current and future beneficial uses including use as a source for drinking water.

Unsuitable Material
Frozen material, or material that contains organic matter, muck, humus, peat, sticks, debris, chemicals, toxic matter, or other deleterious materials not normally suitable for use in earthwork.

Utility
Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, owned, operated or maintained, typically within or across a public right-of-way or easement. A line, facility, or system for producing, transmitting, or distributing communications, power, electricity, heat, gas, oil, water, steam, waste, storm water, or any other similar commodity which directly or indirectly serves the public. The term may also mean the utility company, district, or cooperative owning and operating such facilities, including any wholly-owned or controlled subsidiary.

Warranty
The Contractor's responsibility to the City for the repair or replacement of defective materials and/or workmanship relative to the work or a portion or a component part thereof.

Warranty Bond
The approved security furnished by the Contractor's Surety as a guaranty of the Contractor's performance of its warranty obligations.

Wastewater
See Sanitary Sewer.

Water Distribution System
Water distribution pipelines, pumping stations, reservoirs, valves, and ancillary equipment used to transmit water from the supply source to the service line.

Water Demand
The total quantity of water supplied for a given period of time to meet the various required uses. The various uses include residential, irrigation, commercial, and industrial uses as well as fire fighting, system losses, other unaccounted for, and miscellaneous uses.

Water Main
The water-supply pipe for public or community use.

Water Service Line, Public
The pipe connection from the City water main to the metering device or backflow prevention assembly.

Waterway
A surface water route consisting of a channel having a defined bed, banks, and/or sides in which surface water flows, draining from higher to lower elevations. May also refer to a closed pipe system or bridge structure under limited circumstances.

Wet Weather Construction Season
Defined for the purposes of construction and development in the City as the period between October 1st and the following May 31st. The Wet Weather Construction Season is not to be confused with the wet weather period typically used for calculating current or prevailing sewage flow rates.

Wetlands
An area inundated or saturated by surface or ground water at a frequency and duration sufficient to support and which, under normal circumstances, does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are considered to be part of the watercourse and drainage system of the City. Wetlands generally include swamps, marshes, bogs, and similar areas, but also include seasonally wet meadows, farmed wetlands and other areas that may not appear “wet” all the time. They may be, but are not necessarily, characterized by special soils such as peat, muck, and mud.

Wetland Protection Area
An area subject to the provisions of Title 17 of the Stayton Municipal Code that includes all wetlands determined to be locally significant.

Will
Used in the Standards as an auxiliary verb to express a determination to meet a specific requirement or to take a specific course of action or to describe the inevitable.

Work
All materials, labor, tools, equipment and, incidentals necessary to successfully complete any individual item or, if the context requires, the entire Project including the successful completion of all duties and obligations imposed by the Contract Documents and/or plans and specifications.

Working Day
Calendar day, any and every day shown on the calendar, excluding Saturdays, Sundays and Legal Holidays.

Written Notice
See Notice.

101.11 ACRONYMS AND ABBREVIATIONS

Meanings of acronyms and abbreviations commonly used in these Design Standards, Standard Drawings, on the Plans, and other related documents are as follows:

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ABC	Associated Builders and Contractors, Inc.
AC	Asphalt Concrete
ACI	American Concrete Institute
ACWS	Asphalt Concrete Wearing Surface
AGA	American Gas Association
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association
APWA	American Public Works Association
ARA	American Railway Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATPB	Asphalt-Treated Permeable Base
AWG	American Wire Gauge
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
CAgT	Certified Aggregate Technician
CAT-I	Certified Asphalt Technician I
CAT-II	Certified Asphalt Technician II
CBM	Certified Ballast Manufacturers
CCO	Contract Change Order
CCT	Concrete Control Technician
CDT	Certified Density Technician
CEBT	Certified Embankment and Base Technician
CMDT	Certified Mixture Design Technician
CPF	Composite Pay Factor
CRSI	Concrete Reinforcing Steel Institute
CFR	Code of Federal Regulations
CS	Commercial Standard, Commodity Standards Division, U.S. Department of Commerce
D1.1	Structural Welding Code - Steel, American Welding Society, current edition
D1.5	Bridge Welding Code, American Welding Society, current edition
DBE	Disadvantaged Business Enterprise
DEQ	Department of Environmental Quality, State of Oregon
DOGAMI	Department of Geology and Mineral Industries, State of Oregon
DSL	Division of State Lands, State of Oregon
EA	Each
EAC	Emulsified Asphalt Concrete
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan

FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards, General Services Administration
GSA	General Services Administration
HMAC	Hot Mixed Asphalt Concrete
ICEA	Insulated Cable Engineers Association (formerly IPCEA)
IES	Illuminating Engineering Society
IMSA	International Municipal Signal Association
ISO	International Standards Organization
ITE	Institute of Traffic Engineers
JMF	Job Mix Formula
LS	Lump sum
MFTP	(ODOT) Manual of Field Test Procedures
MIL	Military Specifications
MSC	Minor Structure Concrete
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways,
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NESC	National Electrical Safety Code
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System
NPS	Nominal Pipe Size (dimensionless)
NLMA	National Lumber Manufacturer's Association
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
OR-OSHA	Oregon Occupational Safety and Health Division of the Department of Consumer and Business Services
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PCP	Pollution Control Plan
PF	Pay Factor of a constituent
PLS	Professional Land Surveyor
PMBB	Plant Mixed Bituminous Base
PTI	Post-Tensioning Institute
PUC	Public Utility Commission, State of Oregon
QA	Quality Assurance
QC	Quality Control
QCT	Quality Control Technician
QL	Quality Level
QPL	Qualified Products List
RAP	Reclaimed Asphalt Concrete Pavement
REA	Rural Electrification Administration, U.S. Department of Agriculture
RMA	Radio Manufacturers Association or Rubber Manufacturers Association
SAE	Society of Automotive Engineers
SI	International System of Units
SMC	Stayton Municipal Code
SRCM	Soil and Rock Classification Manual (ODOT)
SSPC	Steel Structures Painting Council
T	Tolerances, AASHTO Test Method
TM	Test Method (ODOT)
TV	Target Value

UBC	Uniform Building Code (as adopted by the State of Oregon)
UL	Underwriters Laboratory, Inc.
UPC	Uniform Plumbing Code (as adopted by the State of Oregon)
USASI	United States of America Standards Institute
USC	United States Code
WAQTC	Western Alliance for Quality Transportation Construction
WCLIB	West Coast Lumber Inspection Bureau
WWPA	Western Wood Products Association

102 PUBLIC IMPROVEMENT DESIGN PROCEDURES AND REQUIREMENTS

102.01 PRE-APPLICATION CONFERENCE

102.01.A The City of Stayton will hold a pre-application conference with the applicant (Owner/Developer), unless otherwise waived by the Planning Director, before formal application for public works permits and review of site design and construction plans. The pre-application process allows the applicant and the City to discuss the proposed project and the standards and regulations that apply, while the project is still in a preliminary stage. Any specific development standards, regulations, or problem areas can thus be discussed before the applicant makes a substantial investment in the project or proceeds with a formal application unaware of the issues.

102.02 PRE-DESIGN CONFERENCE

102.02.A The Developer is encouraged to meet with the Public Works Director and the City Engineer prior to final design of the proposed improvements. It shall be the Developer's responsibility to provide the City Engineer with base maps showing existing utilities and proposed improvements prior to the pre-design conference.

102.03 PRE-DESIGN SURVEY

102.03.A Licensed land surveyors are responsible for land surveying practiced under their supervision including conformance with all State statues pertaining to survey and land laws. This includes, but not limited to, the following statutes:

- ORS 92 Subdivisions and Partitions
- ORS 93 Conveyancing and Recording
- ORS 209 County Surveyors
- ORS 672 Professional Engineers, Land Surveyors, Geologists

102.03.B All public improvement project designs shall be based on a complete design survey. All surveys shall comply with and ORS 209.140-150, which define the requirements for protection of existing survey monuments during any construction and setting new survey monuments following construction.

102.03.C All elevations on design plans and record drawings shall be based on NGVD 29 Datum. Each page of the plans and drawings shall state the benchmark datum information.

102.03.D Horizontal datum shall be based on the Stayton local datum or Oregon State Plain Coordinate System (NAD 83).

102.03.E The design survey shall include, but not be limited to the following information:

- Surface features
- Subsurface features.
- Existing utilities (public and private).
- Property lines/monuments.
- Right-of-way lines & centerline monuments.

102.04 ACCURACY OF CITY MAPS AND PLANS NOT GUARANTEED

102.04.A From time to time the City may provide property owners, engineers, Contractors, and other members of the public with information from the City's archives. The City cannot guarantee and makes no representation that it has verified the accuracy of the measurements, locations, or other information on such maps and plans.

102.05 PUBLIC WORKS IMPROVEMENTS DESIGN

102.05.A GENERAL

1. All public and private public works improvements within a private development shall be designed and constructed to the City of Stayton Public Works Standards plus the requirements of the Stayton Municipal Code. Prior to construction, the Developers' Design Engineer shall submit engineered construction plans for City Engineer or Public Works Department approval of all public improvements. All engineered construction plans must comply with the City of Stayton Public Works Standards, the Stayton Municipal Code, conditions of approval, and the requirements of the City Engineer.

2. All engineered design plans shall be prepared in accordance with the plan development requirements shown in Division 2 of these Design Standards.

3. The Design Engineer shall design the public improvements in accordance with standard engineering practices and applicable Divisions of these Design Standards.

    a. Street and Alleys, including pedestrian and bicycle facilities, street lights and signals, shall be designed in accordance with Division 3 or the Design Standards, the Standard Drawings, be in conformance with the approved tentative plat, City master planning and ordinances, applicable Oregon Revised Statues and Oregon Administrative Rules, and others as noted in Division 3 of these Design Standards.

    b. Water Distribution systems shall be designed in accordance with Division 4 of these Design Standards, the Standard Drawings, City master planning and ordinances, Oregon Department of Human Services-Drinking Water Programs, applicable Oregon Revised Statues and Oregon Administrative Rules, and others as noted in Division 4 of these Design Standards.

    c. Sanitary Sewer systems shall be designed in accordance with Division 5 of these Design Standards, the Standard Drawings, City master planning and ordinances, Oregon Department of Environmental Quality, applicable Oregon Revised Statues and Oregon Administrative Rules, and others as noted in Division 5 of these Design Standards.

    d. Storm drains and other stormwater management facilities shall be designed in accordance with Division 6 of these Design Standards, the Standard Drawings, the City of Portland Stormwater Management Manual, ODOT Erosion Control Manual, City master planning and ordinances, Oregon Department of Environmental Quality, applicable Oregon Revised Statues and Oregon Administrative Rules, and others as noted in Division 6 of these Design Standards.

4. Where the Public Works Standards are silent, the Marion County Public Works Standards shall apply, followed by the ODOT/APWA Oregon Standards, unless otherwise directed by the City Engineer.

5. The Developer shall be responsible for securing approval and permits from all County, State, and Federal agencies having jurisdiction over the Work. These agencies may include, but not limited to, Marion County, ODOT, DEQ, DHS, 1200C, etc.

102.05.B STRUCTURES

1. GENERAL

   a. Structures in public rights-of-way and easements shall be designed, constructed, inspected and tested in accordance with the requirements of the ODOT and ACI, as applicable, and the additional or exclusionary requirements contained in these Design Standards. In cases of conflict or disagreement, the most stringent requirements among them, as determined by the City Engineer, shall take precedence. These requirements are contained in ODOT's Manual of Field Test Procedures, Bridge Design Manual and accompanying Standard Drawings, Oregon Standard Specifications for Construction and Oregon Standard Drawings, AASHTO's Roadside Design Guide, and AASHTO's Load and Resistance Factor Design (LRFD) Bridge Specifications, which are incorporated herein by reference. The latest editions of International Building Code (IBC), the "ACI Manual of Concrete Practice," "ACI Manual of Concrete Inspection," and the "ACI Guide for Concrete Inspection," or other ACI codes, specifications, and guidelines, at the discretion of the City Engineer, shall govern those structures and characteristics of structures not addressed by the aforementioned standards.

   b. For purposes of these Design Standards, the following structures are not considered major structures: curb, curb and gutter, sidewalks, driveways, catch basins, street inlets and other drainage inlets connected to storm drain pipes 18-inches in diameter or smaller, manholes, and other structures shown in the Standard Drawings. These structures shall conform to the Public Works Standards and the ODOT/APWA Oregon Standard Specifications for Construction, as specifically referenced.

   c. Unless otherwise provided herein, major concrete and steel structures shall conform to the ODOT/APWA Oregon Standard Drawings. Major concrete structures not addressed by these Standards, and the characteristics of major concrete structures not fully addressed by these Standards, shall conform to the design criteria in the latest editions of the International Building Code (IBC), the "ACI Manual of Concrete Practice," "ACI Manual of Concrete Inspection," and the "ACI Guide for Concrete Inspection," or other ACI codes, standards, specifications, and guidelines, at the discretion of the City Engineer.

2. RETAINING WALLS

   a. Roadside retaining walls shall be designed to avoid conflicts with the maintenance of utilities and their appurtenances. Utility lines shall not be located under retaining wall tie-backs. Water lines within ten (10) feet or less of the tie-backs shall be encased in approved steel pipe casings.

   b. Retaining walls in public easements shall be designed for maintenance traffic loads in the easement at the top of the wall. The entity responsible for maintenance of each retaining wall and its subsurface drain piping shall be noted on subdivision plats and on the construction plans for the walls.

c. A building permit may be required by the IBC depending upon the height of the wall. Retaining walls requiring a building permit under the IBC shall be designed by a professional civil or structural engineer in accordance with the IBC design criteria.

d. Retaining walls with an exposed face of greater than 30 inches shall be provided with an approved handrail or fence on top conforming to the applicable ODOT/APWA standards as determined by the City Engineer.

102.06 FUTURE DEVELOPMENT

102.06.A All public improvements shall be designed as a logical part of the development of the surrounding area.

102.06.B Utilities and street improvements shall be extended to the boundaries of the development to provide for future extensions to the adjoining areas and prevent adjoining properties from becoming landlocked. In the case of utilities, this shall include extension to the far side of streets fronting or adjacent to the development as required to avoid work within or under these streets in the future.

102.06.C Storm drain systems and sanitary sewers shall be sized to accommodate the entire drainage basin which they will ultimately serve.

102.06.D The City may require over-sizing of water systems and other utilities, in accordance with applicable master plans or as deemed necessary by the City, to accommodate future growth.

102.06.E Where existing public utility lines do not adjoin the proposed development or the capacity of existing lines is inadequate, the Developer will be required to extend new utility lines to the development as necessary, and extend them to provide for service to adjacent properties.

102.06.F Where existing street improvements do not extend to the proposed development or the existing streets to the proposed development are not adequate to serve the development, the Developer may be required to improve the streets to the development.

102.07 UTILITY LOCATIONS

102.07.A The Standard Drawings indicate the general required location for each utility within the public right-of-way.

102.07.B Installation of private utilities in a common trench with water, sanitary sewer or storm drain mainlines is prohibited. A minimum of 3-feet of horizontal separation must be maintained between public and private utilities except at crossings.

102.07.C Utility service companies proposing to install major utility systems larger than typically required to serve local users and which cannot conveniently be relocated in the future will be required to prepare detailed drawings showing how the proposed system can be installed within the right-of-way without conflicting with existing or proposed City utilities. Drawing requirements may include but not be limited to plan and profile of proposed systems based on a detailed topographic survey.

102.08 ACCESS AND UTILITY EASEMENTS

102.08.A Where an access and utility easement is needed to construct the public improvement, the following guidelines and requirements will govern the requirements for, and the use of, public easements:

1. Easements will only be permitted when it has been shown to be impractical or unfeasible to locate the needed public improvement within the public right-of-way. Utilities in the right-of-way shall be located as shown in the Standard Drawings. Easements require specific approval of the City Engineer.

2. All easements shall be exclusive to a single City utility unless otherwise approved by the City Engineer.

3. The conditions of the easement shall be such that the easement shall not be used for any purpose that would interfere with the unrestricted operation and maintenance of the utility. Under no circumstances shall a building or any other structure be placed over a utility or utility easement. This shall include overhanging structures with footings located outside the easement.

4. No trees or landscape features that are large or heavy shall be planted within the easement that could make operation of maintenance equipment difficult. Small shrubs, grass, bark mulch, or gravel may be used on easements. Fences shall be installed within the easement, unless otherwise approved by the City Engineer.

5. Public utilities located on private property shall be located at the center of a permanent easement. The easement for a single utility shall be 15-feet in width for water lines and storm drain line 20-feet in width for sewer lines. If two (2) or more utilities are located within the same easement, the easement width shall be increased based on the separation distance between the lines. Any variation in easement widths shall vary in 5-foot increments.

6. If a utility is deeper than 10-feet or has a diameter greater than 24-inches, a wider easement may be required. In such cases, a slope of one horizontal to one vertical from the bottom of the pipe will be used to determine the width of the easement, after taking into account the width of the pipe trench itself.

7. At the terminus of all public lines, the easement shall be extended a minimum of 10-feet past the end of the line, manhole, or cleanout.

8. Easements shall be granted to the City on Standard Forms provided by the City, unless otherwise approved. Easements shall consist of four (4) separate 8.5 by 11-inch exhibits as follows:

    a. Exhibit A shall provide the Ownership Disclosure and Affidavit.

    b. Exhibit B shall provide the easement's legal description, as prepared by a registered Oregon professional land surveyor.

    c. Exhibit C shall provide a sketch (site and vicinity survey drawing) of the final easement configuration, also prepared by a registered Oregon professional land surveyor.

    d. Exhibit D shall provide a copy of the County tax assessor’s map with the subject property highlighted.

9. Public easements within master planned developments, manufactured home parks, apartment complexes, or commercial/industrial developments shall be located in parking lots, private drives, or similar open areas that permit unobstructed vehicle access for maintenance and inspection purposes.

10. Except with approval of the City Engineer, easements shall be placed on a single property, not centered on property lines. The utility shall be centered in the easement. If an easement centered along a property line is approved by the City Engineer, the utility shall be offset 18-inches clear from the property line.

11. Easements shall be furnished to the City for review and approval prior to recording. All easements shall be according to the City's standards.

12. Easement location, purpose, width, and description shall be shown on the City-approved Plans.

13. Costs for mailing, processing, recording, etc. of easements created by private development shall be borne by the Developer, unless specifically agreed to by the City.

102.08.B When required by the Stayton Municipal Code and/or as directed by the City Engineer, a 10-foot wide public utility easement (PUE) shall be provided for electrical, telephone, cable, gas and other franchise utilities. See Standard Drawings for typical underground utility locations.

102.09 PLAN REVIEW SUBMITTAL REQUIREMENTS

102.09.A Engineered construction plans for all public improvements (including privately financed public improvements) shall be submitted to the City Public Works Department. The City Engineer will coordinate the plan review by the City, will review the plans for compliance with the conditions of approval, City of Stayton Public Works Standards, City Code, Ordinances, and any relative master plans, and will approve the construction plans.

102.09.B Plan submittals shall include the plan development information required in Division 2 of these Design Standards along with all other project information requested by the City Engineer. This information is to include, but not be limited to, Design Engineer's construction cost estimates, easement documents, right-of-way dedications, executed agreements, and a plan check and inspection fee. All submittals will be reviewed for completeness and the Design Engineer notified if required information is missing. Incomplete submittals will be returned without review. Submittals should be made in a timely manner, as lack of information to the City may impede the review process.

102.09.C Five (5) sets of complete construction plans shall be submitted to the City for preliminary review for all single-family and multi-family residential developments, and for all commercial and industrial developments, unless required otherwise by the City Engineer.

102.09.D A plan check fee must be paid before a plan review will be initiated. The amount of the fee will be established by resolution of the City Council.

102.09.E Upon completion of the preliminary review, the City will return either one (1) set of red-lined construction plans or review memorandum outlining the required revisions. In order to be entitled to further review, the applicant's Design Engineer must respond to each comment of the prior review. All submittals and responses to comments must appear throughout to be a bona fide attempt to result in complete drawings. Resubmittals shall consist of a minimum of five (5) sets of construction plans for all development types.

102.09.F Once the preliminary review has been completed and required revisions made, the Developer shall circulate the construction plans to all utility service companies within the City and other agencies as required.

102.09.G Prior to final approval of the construction plans, all proposed drawings from utility service companies must be received and approved by the City. Approvals from other agencies with jurisdiction must also be received, including but not limited to the Oregon Department of Human Services – Drinking Water Program (DHS-DWP), Department of Environmental Quality (DEQ), Department of Transportation (ODOT), Marion County and railroads wherein each has jurisdiction. The Developer is responsible for the coordination with the various utilities and agencies during design and construction. The utilities and agencies may include those shown in Appendix B.

102.09.H Upon final approval of the construction plans, submit two (2) original complete sets of revised construction plans to the City Engineer to be signed and stamped approved for construction. The final approved construction plans will have the City Engineers signature and date within the approval block on the cover sheet and an approved stamp (or similar acknowledgement) on the remaining plan sheets. One (1) approved set will be kept by the City Engineer upon submittal, and the other one (1) approved set will be returned to the Developer to make additional copies required for the Project. It is recommended that at minimum a total of six (6) legible photocopies (high resolution) be produced from the original set. The Developer is to return a total of three (3) legible photocopies to the City upon photocopying.

102.09.I Prior to issuance of the public works construction permits, the Developer shall provide the City with the following:

1. Total of one (1) original approved set and three (3) legible photocopies (high resolution) of the approved set of construction plans.

2. Copy of an approved (by City Attorney) Developer-City Agreement signed and notarized by the Developer and the Design Engineer.

3. Any required permit fees.

4. Recorded copies of all required easements and right-of-way dedications. Off-site easements shall be recorded and delivered to the City prior to issuance of a construction permit for that work. For subdivisions or partitions where all public utilities will be constructed prior to the recording of a final plat, the execution and recording of the easement documents and right-of-way dedications can be done in conjunction with the final plat. All easements documents shall use the City's standard form, and shall include an exhibit map in addition to any legal descriptions. Legal descriptions and exhibit maps shall be submitted for City review and approval prior to recording.

5. Proposed Construction Schedule.

6. Certificates of insurance, with minimum limits as outlined in the Standard Construction Specifications. City of Stayton and City Engineer shall be named as additional insured.

7. Evidence of Workman's Compensation coverage from Contractor performing the work.

8. Any required Waiver of Remonstrance agreements.

9. Required performance bonds.

10. Other submittals specific to this project, including approvals from applicable state agencies, such as DEQ (sewer & erosion control), DHS-DWP (water), DSL, etc.

102.09.J Approval of plans by the City Engineer or Public Works for issuance of a Public Works construction permit does not relieve the Developer, Contractor or Design Engineer from obtaining any and all reviews and permits required under the building, plumbing or electrical codes or any other agencies that any portions of the Work may be subject to.

102.09.K Once the plans are approved and the public works construction permit issued, the Design Engineer shall be responsible for performing or providing all surveying services necessary to stake the project and prepare the Record Drawings when the project is complete.

102.10 SUPPORTING INFORMATION

102.10.A The Design Engineer shall submit sufficient supporting information to justify the proposed design. Such supporting information is further summarized in each Division of these Design Standards and shall include, but not be limited to, the following:

1. Design calculations.

2. Alternate materials specifications including manufacturer's design application recommendation.

3. For storm drains, hydrology and hydraulic calculations with basin maps.

4. Grading plan support information to include as appropriate:

   - ❖ Soils Engineering Report.
   - ❖ Hydrology Drainage Report.
   - ❖ Engineering Geology Report.

5. A narrative of the stormwater facility, including its intended function, and an explanation of how the outlet(s) function to meet peak discharge control and water quality treatment control requirements.

6. A downstream drainage analysis to determine the potential impacts from the project on the downstream system. Refer to Section 603.02.F, for more information regarding downstream analysis.

7. For waterline systems, water model/calculations.

8. When designing sanitary sewer or stormwater facilities, a facility plan shall be submitted with the construction plans when required by the City Engineer. This plan shall be used to identify and analyze the proposed extension of facilities. The topographic plan shall show all upstream and tributary areas within at least 200-feet of the proposed development.

9. The facility plan shall include existing contours at 2-foot intervals, or as approved by the City, including location of existing structures and public and private utilities.

10. An operation and maintenance plan shall be submitted for City review and approval for all privately financed private detention, retention, and water quality facilities. The plan shall include types and frequencies of maintenance activity required. Refer to Sections 607.05 and 608.07.

103 CONSTRUCTION PROCEDURES AND REQUIREMENTS FOR PRIVATELY FINANCED PUBLIC IMPROVEMENTS

103.01 CONSTRUCTION PLAN APPROVAL

103.01.A GENERAL

1. Engineered construction plans and specifications shall be reviewed and signed approved by the City Engineer, prior to construction. No construction work on privately financed public improvement projects may commence until the City issues a public works permit.

2. Privately financed public improvement projects shall obtain a public works permit within six (6 months) from the date construction plans are signed approved by the City Engineer, unless otherwise approved. If a public works permit is not obtained within this period, the approval of the construction plans shall become null and void. Renewal of the approval for the construction plans may result in additional conditions to meet new standards, changed conditions, or new information discovered since the original approval.

103.01.B PHASED CONSTRUCTION

1. A development that has been approved by the City to be constructed in phases, the construction plans for each phase shall be capable of standing alone and City approval of one phase shall be independent of the approval for all other phases. Approval of the construction plans by the City and the time by which construction must begin shall apply to each phase independently.

103.02 REQUIRED PUBLIC WORKS PERMITS

103.02.A Public works permits shall be issued on all public improvement projects within public rights-of-way, or easements, which will eventually be maintained and operated by the City of Stayton. Any permits required by federal, state, and local governments shall be obtained by the applicant proposing the improvements. Public improvement projects requiring permits from the City of Stayton shall include, but not necessarily be limited to, improvements or upgrades to streets, sidewalks, curbs, driveway approaches, water systems, sanitary sewer systems, and storm drainage systems. Projects that also require plan review and public works permits include all private storm drainage, sanitary sewer, and water systems that will be connected to or that will discharge into a system under the jurisdictional control of the City of Stayton.

103.02.B A public works permit for privately financed public improvement projects shall not be issued unless the subject development, and any other development of the Developer within the City of Stayton, is in substantial compliance with all applicable federal, state, and local laws, rules, regulations, permits, and the approved plans relating to such developments. Developer is responsible for ensuring compliance; however, if there is a material violation of any such requirement prior to issuance of a permit, the City may elect to withhold the permit for privately financed public improvement projects until such time as the violation has been resolved to the satisfaction of the City.

103.02.C The construction, repair, or replacement of all other utilities located within a public right-of-way or public easement, including, but not exclusively, power, telephone, gas, and cable television, shall be required to submit plans for review and approval and obtain a public works permit.

103.02.D The following is a list of pertinent City Public Works Construction Permits that are issued by the City of Stayton Public Works Department:

1. Public Works Site Improvement Permit – This permit covers the construction of streets, alleys, sidewalks, driveway approaches, curbs and gutters and other site improvement projects within the City of Stayton public rights-of-way and/or easements. Utility and other subsurface construction is covered under the Public Works Utility/Excavation Permit shown below. The Applicant shall provide a description of the purpose for the permit and also a site map indicating the location of construction with respect to curb or property lines. All work is required to conform to the Stayton Municipal Code and the City of Stayton Public Works Standards and is also subject to the general terms and conditions shown on the back of the permit.

2. Public Works Utility/Excavation Permit – This permit covers the cutting and excavation of streets or alleys and construction of all subsurface utilities within the City of Stayton public rights-of-way and/or easements. The Applicant must provide a description of the purpose for the excavation and also a site map showing the location of the excavation. Permission to cut the surface of streets must be in accordance with Stayton Municipal Code Title 12 and the City of Stayton Public Works Standards. All work is required to conform to the Stayton Municipal Code and the City of Stayton Public Works Standards and is also subject to the general terms and conditions shown on the back of the permit.

103.02.E The following is a list of pertinent City Right-of-Way Permits that are issued by the City of Stayton Public Works Department:

1. Right-of-Way Encroachment Permit – This permit covers the long term use of public rights-of-way and/or easements to construct or maintain a structure encroaching upon such public rights-of-way and/or easements. An encroachment structure shall include any tower, pole, pole line, deck, billboard, stand or building, landscaping, parking, or any other such object or structure that is placed in, upon, under or over any public street or alley right of way, or other public property.

2. Right-of-Way Closure Permit – This permit covers the temporary closure of sidewalks, streets, traffic and bicycle lanes, alleys, parking spaces, paths, and any other pedestrian and/or vehicular access within the City of Stayton public right-of-way and/or easements. Closures on state highways or county roads may require additional permits through ODOT or Marion County.

103.03 CONSTRUCTION PERIOD

103.03.A Privately financed public improvement projects shall begin construction, as deemed acceptable by the City, within six (6) months from the date a public works permit has been issued. If construction does not begin within this period, the approvals of both the construction plans and the public works permit will become null and void. Renewal of the approval for the construction plans and public works permit may result in additional conditions to meet new standards, changed conditions, or new information discovered since the original approval.

103.03.B Privately financed public improvement projects shall be completed within two (2) years of the issuance of the public works permit unless the City extends the completion date. The City Engineer may require additional bonding and impose other conditions before granting such an extension.

103.04 APPLICABLITY OF STANDARD CONSTRUCTION SPECIFICATIONS

103.04.A The Public Works Standards are applicable to all public improvements constructed within the City of Stayton, including privately financed public improvement projects.

103.04.B The Standard Construction Specifications contains provisions relating to offers and contracts with the City for publicly financed public improvement projects. These provisions are not applicable to privately financed public improvement projects and are noted as such in each Section. The remaining provisions of the Standards are applicable to privately financed public improvement projects. If a Section or Subsection of the Standard Construction Specifications is not applicable in its entirety to privately financed public improvements, it is so noted in the title of the Section or Subsection. If not noted in the title as ("Not applicable to privately financed public improvements"), the Section or Subsection is applicable to privately financed public improvements except as specifically stated in the Subsection.

103.05 BONDING REQUIREMENTS

103.05.A GENERAL

1. All bonds signed on behalf of the Surety shall be accompanied by a certified copy of the authority to act. Surety shall be licensed to conduct the business of surety in the State of Oregon and named in the current list of approved sureties published by the U. S. Treasury Circular 570. If the Surety on any bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in the State of Oregon, or it ceases to meet the requirements and be listed as an approved surety, Contractor shall within five (5) days thereafter, substitute another Bond and Surety, both of which shall be acceptable to City.

103.05.B CONSTRUCTION BONDING (PERFORMANCE GUARANTEE)

1. Where public improvements are required, a performance guarantee is required to be in place, prior to issuance of a public works permit for privately financed public improvement projects. A performance guarantee is a financial commitment that warrants that certain required public improvements will be constructed in accordance with the plans and specifications approved by the City. The Developer shall provide a construction bond, or other form of performance guarantee acceptable to the City Administrator and City Attorney, in the amount of one-hundred and twenty-five percent (125%) of the estimated cost of construction.

2. The estimated cost of construction shall be determined by the Design Engineer's estimate, the tabulation of bids, or other method acceptable to the City Engineer. The Construction Bond shall be conditioned upon compliance with and fulfillment of all terms and provisions of the Stayton Municipal Code, the approved plans and specifications, and any agreement relating to the construction of the public improvements.

3. Double construction bonding will not be required on elements of the project where Marion County or ODOT requires construction bonding.

103.05.C WARRANTY BONDING (QUALITY ASSURANCE GUARANTEE)

1. A warranty bond is a financial commitment that warrants that the improvements were made according to the approved plans and specifications and that the workmanship and materials used in constructed public improvement project will satisfactorily perform for a warranty period of not less than one (1) year.

2. Record Drawings shall comply with the requirements outlined in Section 202 of the Design Standards and shall be submitted prior to issuance of the Notice of Final Completion, initiating the one (1) year warranty period.

3. After the project is deemed complete, the Developer shall provide the one (1) year warranty bond, or other form acceptable to the City Administrator and City Attorney in the amount of thirty percent (30%) of the Construction Bond. The one (1) year warranty period begins on the date of construction approval on the Notice of Final Completion. Warranty bond shall continue in force until released by written release from the City (bond may extend beyond one (1) year if Contractor corrections are outstanding).

4. If no defects are found by the end of the one (1) year warranty period, the City will make final acceptance of the work for ownership and operation and the warranty bond will be released.

103.06 INSURANCE AND INDEMNIFICATION

103.06.A The Developer shall indemnify and hold harmless the City and the City Engineer, their officers, employees, and consultants, from and against all claims, demands, penalties, damages, losses, expenses, including attorney's fees, and causes of action of any kind or character, including the cost of defense thereof, arising or alleged to have risen in favor of any person on account of personal injury, death, or damage to property arising out of or resulting from, or alleged to have risen out of or resulted from, in whole or in part, any act or omission of the Developer, the Developer's Design Engineer, the Developer's Contractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. See Subsection 108.11 of the Standard Construction Specifications.

103.06.B The City may require additional assurances from the Developer including, but not limited to, Certificates of Insurance from insurance companies or entities acceptable to the City and authorized to issue insurance in the State of Oregon. When required, the Certificate shall specify all of the parties who are named additional insured. At minimum, the City of Stayton and City Engineer shall be named additional insured. The Developer shall be responsible for paying all deductibles, self-insured retentions and/or self-insurance included under these provisions. See Subsection 108.12 of the Standard Construction Specifications.

103.07 PREQUALIFICATION OF CONTRACTORS

103.07.A Contractor's need not be prequalified for privately financed public improvements.

103.08 PRE-CONSTRUCTION CONFERENCE

103.08.A A pre-construction conference, as required in Subsection 109.02 of the Standard Construction Specifications, shall be scheduled before commencement of construction. The meeting is to include the City Engineer, the Developer's representative, Design Engineer, Contractor, Marion County and/or ODOT representative (as applicable), and all affected utility companies. The purpose of the conference is to discuss the construction schedule and times of the work which require special coordination.

103.08.B The Developer shall be responsible for notifying ODOT, Marion County, and all private utility companies of the time and location of the preconstruction conference, and requesting that a representative be present. The Developer may be required to submit proof of notification to the City prior to the pre-construction conference. Copies of notification letters sent by the Developer or Design Engineer are acceptable.

103.09 CONSTRUCTION REQUIREMENTS

103.09.A GENERAL

1. During the construction period, the City will maintain three (3) sets of approved plans and specifications. The Contractor shall retain at minimum one (1) set of approved, stamped, and signed plans and specifications at the construction site at all times.

103.09.B CONSTRUCTION SURVEYING

1. EXISTING SURVEY MONUMENTS

   a. Before beginning any construction activity, the applicant's engineer/surveyor shall adequately reference all permanent survey monuments, property corners, stakes, or benchmarks on the subject site, or markers that may be subject to disturbance in the construction area or during the construction of any off-site improvements. It shall be the responsibility of the Contractor to protect survey monuments throughout the construction process. The Contractor shall not disturb permanent survey monuments without written consent from the City's authorized representative.

   b. If any survey monument is disturbed, moved, relocated, or destroyed as a result of construction activity, the Contractor shall, at Contractor's cost, retain the services of a Professional Land Surveyor registered in the State of Oregon to restore the monument to its original condition and shall file all documentation required by Oregon law. A copy of the recorded documentation shall be submitted to the City Engineer.

   c. In accordance with ORS 209.150, any person or public agency removing, disturbing or destroying any survey monument of record in the office of the County Surveyor shall cause a registered Professional Land Surveyor to file a reference with the County Surveyor and replace the monument within ninety (90) days of the removal, disturbance, or destruction. Failure to comply with this provision is subject to penalty according to ORS 209.990.

2. NEW SURVEY MONUMENTS

   a. Street centerline monumentation shall be in accordance with ORS 92.060 (2). The centerlines of all street right-of-way shall be monumented before the City shall accept a street improvement. Monuments shall be set under the direction of a registered Professional Land Surveyor. A record of survey must then be filed in compliance with ORS 209.250 and any additional requirements set forth by the City.

   b. All centerline monuments shall be placed in a monument box in accordance with the Standard Drawings. Monument boxes shall be of a type approved by the City before installation and the top of the box shall be set at design finished grade.

   c. All sanitary and storm sewers shall be placed in positions that do not interfere with centerline monumentation.

103.09.C RAILROAD CROSSINGS

1. Crossings of railroad rights-of-way shall be done in a manner that conforms to the requirements of the railroad having jurisdiction. If any bonds or certificates of insurance protection are required, they shall be furnished by the Contractor or Developer to the railroad company concerned, with the City and City Engineer as an additionally named insured.

2. Permits or easements for such crossings shall be obtained by the Developer. All the terms of such permits or easement shall be met by the Developer and Contractor.

103.09.D STREAM CROSSINGS

1. Stream crossings shall be avoided whenever possible, whether by roads, utilities, or other development. If streams must be crossed, impacts shall be minimized by preferring bridges to culverts, and by designing bridges and culverts to pass at least the 100-year flood and meet the Oregon Department of Fish and Wildlife (ODFW) Fish Passage Criteria, or latest edition.

2. The Contractor shall comply with the regulatory requirements of the Oregon Department of State Lands, ODFW, U.S. Fish and Wildlife Department, U.S. Army Corps of Engineers, National Marine Fisheries Service, and any other state and federal agencies having jurisdiction.

3. Before any work may be performed in any stream, the method of operation and the schedule of such work shall be approved in writing by the City Engineer. The timing of in-water work shall comply with the guidelines established by the jurisdictional agency. Mechanized equipment shall enter streams only when necessary and only within the immediate work area.

103.09.E OBSERVATIONS, INSPECTIONS, AND TESTING OF CONSTRUCTION.

1. GENERAL

   a. All public construction falling under the jurisdiction of the City of Stayton shall be inspected by a State of Oregon registered engineer, or a qualified individual under the supervision of a State of Oregon registered engineer. The City will not authorize work to begin on public improvements without designation of the Design Engineer's Inspector by the Owner or Developer. In addition, the Owner, Developer (if different than Owner), and the Design Engineer shall sign the City's Developer-City Agreement form before construction can begin.

   b. The Developer, directly through service contract or agreements, shall pay for required testing and all inspection costs, including costs for the City's authorized representative and City Engineer's time. The City will require inspection costs to be included in the contract surety.

   c. The Developer shall be responsible for providing the name of a compaction-testing firm that will be paid by the Developer and that will supply the City Inspector with the compaction tests needed to certify that the soils, aggregate, and surface materials meet the minimum requirements of these Standards. The testing firm hired by the Developer shall be required to be under the direct supervision of a professional engineer registered in the State of Oregon whose area of expertise is geotechnical engineering.

d. The Developer shall also be responsible for providing the name of a materials-testing firm that will be paid by the Developer and that will supply the City Inspector with the concrete-strength tests and other materials tests as required to certify that the materials meet the minimum requirements of these Standards. The testing firm hired by the Developer shall be required to be under the direct supervision of a professional engineer registered in the State of Oregon.

e. An engineer whose firm, or any member of the firm, has any form of real property interest in the development for which the improvements are required cannot be designated Design Engineer's Inspector. The Design Engineer's Inspector's relationship to the project must be solely that of a professional service nature.

f. The City will not provide full-time construction observation services for work in progress on privately financed public improvement projects. The City will, however, perform limited site observations as part of the Public Works Permit process (see appropriate permit general conditions).

g. The Contractor shall not make connections between existing work and new work until completing necessary inspection and testing on the new work. This new work must conform in all respects to the requirements of the plans and specifications.

h. The Design Engineer (or his/her designated Inspector) shall visit the job site and make contact with the Contractor as necessary to verify that materials and construction are meeting specifications. Amount of time spent at job site depends on the size, complexity of project, and cooperation and reliability of contractor. If the City determines the Design Engineer is not keeping adequate control of the job, or is not spending enough time at the job site, the City representative may issue a stop work order for the project until the Design Engineer's Inspector provides adequate inspection/ observation. The Design Engineer is responsible to monitor all construction and testing.

2. CITY'S CONSTRUCTION OBSERVATION OF WORK IN PROGRESS ACTIVITIES

a. Construction observation of work in progress provided by the City Inspector will typically include the following activities:

- ❖ Act as a liaison between the Design Engineer and/or Design Engineer's Inspector and the City;
- ❖ Monitor both the work in progress and the required performance tests, as deemed desirable by the City Engineer;
- ❖ Issue stop work orders upon notifying the Design Engineer's Inspector of the City's intention to do so. If the City Inspector cannot contact the Design Engineer's Inspector verbally, then the City Inspector shall send a written notification.
- ❖ Inform the City Engineer of all proposed plan changes, material changes, stop work orders, or errors or omissions in the approved plans or specifications as soon as practical. Revisions to the approved plans must be under the direction of the Design Engineer. The Design Engineer shall submit three (3) copies of the proposed revision for approval; no work affected by the revision shall be done until approved by the City Engineer.
- ❖ Operate or coordinate operation of all valves, including fire hydrants, on existing waterlines.

b. The City Inspector shall at all times have access to the project and will make routine observations of work in progress. Should any observation of work in progress or test results reveal that the construction of the improvements is not proceeding according to the approved plans and the specifications in this document, the City Engineer may order all work stopped, all defective work removed, or both.

c. The Contractor shall give the City Inspector a minimum of 48 hours (two working days) advance notice before a required "milestone" test or inspection. It is the responsibility of the permit holder or Contractor to obtain inspections and approvals for all work installed.

d. Construction observation of the work in progress for the "milestone" tests and inspections shown below is to be witnessed by the City Inspector. The Contractor and/or Design Engineer's Inspector shall coordinate with the City Inspector as necessary during construction.

e. The following list of minimum "milestone" tests and inspections are required.

1) STREETS

- Curb inspection
- Subgrade testing or proof rolls
- Aggregate base rock proof rolls and testing
- AC pavement placement and testing
- Sidewalk/Handicap Ramp installation

2) WATER

- All installation requiring chlorine swabbing
- Filling of water system
- Mainline or Hydrant Blowoff operations
- Pressure and leakage tests
- Disinfection

3) SANITARY SEWERS

- Air testing of sanitary sewer mains and laterals
- Hydrostatic or vacuum testing of manholes

4) STORM DRAINS

- Air or Hydrostatic testing as required

f. Failure to give advance notice to the City Inspector for required inspections, receive adequate inspections, or violation of other regulations, ordinances, resolutions, rules, and City Codes as outlined in these Standards can result in one or more of the following, as determined by the City:

- Uncovering or removal of work not inspected
- Stoppage of work until problem is resolved
- Suspension of future inspections
- Withholding certification of projects as complete, which is required to begin warranty period and eventual City acceptance for maintenance and operation
- Citation for violation of the Stayton Municipal Code and its penalties and provisions

3. DESIGN ENGINEER'S INSPECTOR ACTIVITIES

a. The following minimum activities are required of the Design Engineer or his/her designated Inspector (Design Engineer's Inspector). The Design Engineer must personally perform all activities marked below by an (*), and must supervise all individuals performing delegated activities. A recognized testing firm or another registered engineer must accomplish material testing not performed by the Design Engineer.

1) * Execute Developer-City Agreement form to provide engineering services including construction staking, construction inspection/observation, and Record Drawing preparation.

2) Maintain a project log that contains at least the following information.

- Job number, name of Design Engineer's Inspector and designee(s);
- Date and time of site visits, including arrival and departure times;
- Weather conditions, including temperature;
- A description of construction activities;
- Statements of directions to change plans, specification, stop work, reject materials or other work quality actions;
- Public agency contacts;
- Perceived problems and action taken;
- General remarks related to construction activities;
- Final and "milestone" inspections;
- Record all material, soil and compaction tests; and
- Citizen contact or complaints;

NOTE: If requested by the City Engineer, all active site development projects shall be required to turn in daily inspection/observation reports to the City on a weekly basis containing information as outlined above. Upon the City's request for the daily inspection/observation reports, if the compiled reports become more than two (2) weeks in arrears, the City representative may post a stop work order on the project site.

3) Obtain and use a copy of City-approved construction plans and specifications;

4) Review and approve all installed erosion control measures prior to any site clearing or ground-disturbing activities by the Contractor.

5) Review and approve all pipe, aggregate, concrete, asphaltic concrete, and other materials to ensure their compliance with City standards;

6) * Approve all plan or specification changes in writing and obtain City approval (See City Activities above). All changes shall be with the approval of the City before the commencement of work affected by the revision;

7) Monitor construction activities to ensure end products meet City specifications;

8) * Perform (or have performed) material, composition and other tests required to ensure City specifications are met;

9) Periodically check that curb, sanitary sewer work, storm sewer work, and pavement grades are in accordance with adopted plans;

10) Periodically certify to the City the amount of work completed to enable release of monies or a reduction of assurance amount;

11) File a completion report that contains:

- The original of the project completion certification;
- A complete copy of the log, signed by the Design Engineer and/or Design Engineer's Inspector, compiled from the contractor's, Design Engineer's Inspector, and City inspector's records;
- A complete set of as-built/record drawing plans compiled from the contractor's, Design Engineer's Inspector, and City inspector's records;
- The results of materiel tests, compaction tests, and soil analysis as detailed in the log.

12) Call to the City's attention, by the end of that workday, all plan changes, material changes, stop work orders, or errors or omissions in the approved plans or specifications.

13) Observe and record as-built/record drawing information on job site at: time of construction. The Design Engineer's Inspector should observe, approve, and document any minor deviations from plans and specifications not requiring City approval. This could include minor changing of manhole elevations, correcting unforeseen field conditions, and so forth.

14) Ensure that contractor notifies police, fire, school bus, public transportation officials, and local affected residences and businesses of proposed utility outages, street closures, or traffic detouring or disruption.

15) Verify that traffic control signing is in place before the start of construction, and in compliance with City-approved traffic control plan and construction sign plan.

4. MAJOR INSPECTION CHECKLIST – The following is the responsibility of the Design Engineer or his/her designated Inspector (Design Engineer's Inspector).

a. SANITARY SEWERS -

- Be present at initial opening of trench to verify grade and alignment and answer any questions.
- Verify grade and alignment of sewer a minimum of once for each run between manholes. If alignment and grade does not check, additional checks shall be made to ensure grade and alignment are achieved.
- Verify materials and construction meets specifications including bedding, pipe, pipe zone, tracer wire, warning tape, backfill, manholes, etc.
- Be present at air test and supply City with copy of air test results.
- Be present at compaction testing of trenches and supply City with copy of results.
- Be present at pavement patching of trenches. Verify that tack coat has been applied before paving and that all trench joints are sand-sealed following paving.
- Be present periodically when traffic is being detoured or streets are closed to monitor traffic control measures.
- Notify City when line is ready for CCTV inspection. Monitor CCTV inspections.

- Verify that manhole tops are at proper finish elevation with correct amount of grade rings.
- Be present at manhole testing. Test manhole for acceptance only after completion of surface restoration including paving and final adjustment to grade. DEQ's manhole test record form or equivalent shall be used to record the test.
- Attend final inspection of project.

b. WATER LINES -

- Be present at initial opening of trench to verify line, grade, and connection to existing water line meets specifications.
- Verify materials and construction meets specifications including bedding, pipe, pipe zone, warning tape, backfill, etc.
- Verify that a minimum of three feet (3') of cover from finish street grade is maintained. Grade stakes shall be required when water line is installed before coring of street. When water line varies from standard cover of three feet (3'), water line depths shall be recorded at grade breaks and every 100 lineal feet and referenced to final grade.
- Verify valve, fitting, and blowoff installation as per plan and location. Inspect materials before installation for compliance with plans and specifications.
- Verify joint restraint and thrust blocking as per the Standard Drawings.
- Verify service lines are proper size and material, and meter stop is at correct horizontal and vertical location.
- Verify fire hydrants meet specifications at correct horizontal and vertical location.
- Monitor water line pressure and leakage test. Notify City Inspector of time of test. Provide all test results to the City.
- Monitor water line flushing and chlorination.
    - Method of introducing chlorine to waterline must meet City and State requirements.
    - Design Engineer's Inspector to coordinate with City Inspector for water samples for bacteriological test of water purity. City Inspector will report results to Design Engineer.
    - The Design Engineer shall ensure the bacteriological tests passed and obtain approval from the City Inspector before connecting the new water system to the existing water system.
    - Discharging of the highly chlorinated water used for disinfection shall not be discharged into surface waters. The Design Engineer shall ensure Contractor disposes of flushed chlorinated water in accordance with applicable federal state and local regulations concerning said discharge.
- Be present at compaction testing of trenches and supply City with copy of results. Verify proper bedding and backfill process.
- Be present at pavement patching of trenches. Verify that tack coat has been applied prior to paving and that all trench joints are sand-sealed following paving.
- Notify Public Works ((503) 769-2919) two (2) working days before any required public water shutdown.
- Periodically be present to observe when traffic is being detoured or streets are closed to monitor traffic control measures.
- Attend final inspection of project.

c. STORMWATER SYSTEMS -

- Verify erosion and sediment control provisions are properly installed and maintained throughout the project.
- Be present at initial opening of trench to verify grade and alignment and answer any questions.
- Verify grade and alignment of storm drains a minimum of once for each run between manholes. Number of checks depends on quality of work being done by contractor.
- Verify materials and construction meets specifications including bedding, pipe, pipe zone, tracer wire, warning tape, backfill, manholes, etc.
- Be present at compaction testing of trenches and supply City Inspector with copy of results.
- Be present at pavement patching of trenches. Verify that tack coat has been applied before paving and that all trench joints are sand-sealed following paving.
- Periodically be present when traffic is being detoured or streets are closed to monitor traffic control measures.
- Verify that manhole tops are at proper finish elevation with correct amount of grade rings.
- Verify catch basin inlet installation per specifications at proper grade and location.
- Verify stormwater quantity and quality facilities are constructed in accordance with the plans and specifications.
- Attend final inspection of project.

d. STREET CONSTRUCTION -

- Monitor and document subgrade, grade elevation, and compaction testing. Observe subgrade for soft spots and unsuitable materials. Document corrective actions.
- Verify subbase rock meets specifications and grade elevation. Monitor compaction testing.
- Monitor curb alignment and elevation per survey stakes. Verify curbs meet specification requirements and that drainage blockouts, wheelchair ramps, and driveway cuts (where required) are placed correctly.
- Notify City Inspector so he/she may be present during proof rolling of subgrade, rock placement, and before paving.
- Verify installation of survey monuments at street intersections.
- Monitor asphalt placement:
  - Submit ready-to-pave notice to City for approval.
  - Apply tack coat and saw cut existing pavement.
  - Tack-coat existing curbs, manholes, and pavement before paving.
  - Test asphalt temperature against specifications.
  - Ensure depth of asphalt meets specifications.
  - Ensure class of asphalt meets specifications.
  - Ensure compaction and procedures meet specifications. Monitor compaction testing where required.
  - Provide supplier's certification showing rock gradation and asphalt content of materials.
- Be present periodically when traffic is being detoured or streets are closed to monitor traffic control measures.

103.10 COMPLETION

103.10.A NOTICE OF SUBSTANTIAL COMPLETION

1. When the improvements are sufficiently and substantially complete, as determined by the City Engineer, the City will inspect the improvements and create a list of any deficient items (punch list). Punch list items shall be completed within a specified period of time provided in the Notice of Substantial Completion prior to the City's construction approval of the public improvements.

103.10.B NOTICE OF FINAL COMPLETION

1. Public improvements and public utilities required for a Partition or Subdivision shall be fully constructed and a Notice of Final Completion provided by the City Engineer prior to the recording of the final plat and prior to any building permit applications being accepted or issued, unless the required improvements are deferred under a non-remonstrance or other agreement approved and signed by the City Administrator and City Attorney. Submission of Record Drawings is required prior to receiving a Notice of Final Completion.

2. Public improvements and public utilities required for issuance of a Building Permit shall be fully constructed and a Notice of Final Completion provided by the City prior to the issuance of a Certificate of Occupancy.

103.11 RECORD DRAWINGS (AS-BUILTS)

103.11.A For all public works improvements the Design Engineer shall submit certified as-built record drawings and electronic CD for all approved plans within three (3) months of the completion of construction. As-built record drawings shall comply with the Record Drawing requirements of Section 109.24 of the Standard Construction Specifications and Record Drawing plan development requirements specified in Section 202 of the Design Standards. All submittals of the Record Drawings shall be of archival quality.

103.12 WARRANTY RELEASE AND FINAL ACCEPTANCE BY THE CITY

103.12.A The City will inspect the project approximately one (1) month prior to conclusion of the warranty period and notify the Developer in writing of any deficiencies which need to be corrected. The Developer shall be responsible for correcting any deficiencies prior to the warranty expiration. The City will not authorize the release of the Warranty Bond and the privately financed public improvements will not be accepted by the City for ownership and operation until all requirements have been completed to the satisfaction of the City, and all fees and charges have been paid.

103.12.B Upon successful correction any noted deficiencies and upon payment of all fees and charges to the City, the City Engineer will authorize the release of the warranty and issue a Notice of Final Acceptance stating that the City accepts the public improvements for ownership and operation.

END OF DIVISION